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1997 Economic Census

Transportation

1997 Commodity Flow Survey



U.S. Department of Transportation
BUREAU OF TRANSPORTATION STATISTICS

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are

published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

1997 Commodity Flow Survey

GENERAL

The 1997 Commodity Flow Survey (CFS) is undertaken through a partnership between the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Transportation Statistics, U.S. Department of Transportation. This survey produces data on the movement of goods in the United States. It provides information on commodities shipped, their value, weight, and mode of transportation, as well as the origin and destination of shipments of manufacturing, mining, wholesale, and selected retail establishments. The CFS was last conducted in 1993. See the Comparability With the 1993 Commodity Flow Survey table (Appendix A) for a comparison between the 1997 and 1993 surveys. The data from the CFS are used by public policy analysts and for transportation planning and decision-making to assess the demand for transportation facilities and services, energy use, and safety risk and environmental concerns.

This report presents data at the state level. Additional reports will include data for the United States, census regions, divisions, and selected metropolitan areas, as well as selected data on exports and hazardous material shipments.

INDUSTRY COVERAGE

The 1997 CFS covers business establishments in mining, manufacturing, wholesale trade, and selected retail industries. The survey also covers selected auxiliary establishments (e.g., warehouses) of in-scope multiunit and retail companies. The survey coverage excludes establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most establishments in retail.

The industries covered, as defined in the 1987 Standard Industrial Classification Manual (SIC), are listed in the following table:

SIC code	Title
10, ex. 108	Metal mining (excluding metal mining services)
12, ex. 124	Coal mining (excluding coal mining services)
13	Oil and gas extraction ¹
14, ex. 148	Mining and quarrying of nonmetallic minerals, except fuels (excluding nonmetallic minerals services)
20	Food and kindred products
21	Tobacco products
22	Textile mill products
23	Apparel and other finished products made from fabrics and similar materials
24	Lumber and wood products, except furniture
25	Furniture and fixtures
26	Paper and allied products
27, ex. 279	Printing, publishing, and allied industries (excluding service industries for the printing trade)
28	Chemicals and allied products
29	Petroleum refining and related industries
30	Rubber and miscellaneous plastics products
31	Leather and leather products
32	Stone, clay, glass, and concrete products
33	Primary metal industries
34	Fabricated metal products, except machinery and transportation equipment
35	Industrial and commercial machinery and computer equipment
36	Electronic and other electrical equipment and components, except computer equipment
37	Transportation equipment
38	Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks
39	Miscellaneous manufacturing industries
50	Wholesale trade—durable goods
51	Wholesale trade—nondurable goods
596	Catalog and mail-order houses

¹We included establishments classified in SIC 13, Oil and Gas Extraction, in the initial coverage of the 1997 CFS. However, because of unresolved industry-wide reporting issues, we have removed shipments from these establishments from our 1997 CFS tabulations. The data collected from these establishments will be used as input to a special report at a later date.

Similarly, because establishments in SIC 13 are responsible for the overwhelming number of shipments classified in SCTG 16, Crude Petroleum, we have removed all shipments with SCTG 16 from the 1997 CFS publication results.

SHIPMENT COVERAGE

The CFS captures data on shipments originating from selected types of business establishments located in the 50 states and the District of Columbia. The data do not cover shipments originating from business establishments located in Puerto Rico and other U.S. possessions and territories. Shipments traversing the U.S. from a foreign location to another foreign location (e.g., from Canada to Mexico) are not included, nor are shipments from a foreign location to a U.S. location. Imported products are included in the CFS at the point that they left the importer's domestic location for shipment to another location. Shipments that are shipped through a foreign territory with both the origin and destination in the U.S. are included in the CFS data. The mileages calculated for these shipments exclude the international segments (e.g., shipments from New York to Michigan through Canada do not include any mileages for Canada). Export shipments are included, with the domestic destination defined as the port of exit from the U.S.

The "Industry Coverage" section of the text lists the SIC groups covered by the CFS. Other industry areas that are not covered, but may have significant shipping activity, include agriculture, government, and retail (other than warehouses and SIC 5961, Catalog and Mail-Order Houses). For agriculture specifically, this means that the CFS did not cover shipments of agricultural products from the farm site to the processing centers or terminal elevators (most likely short-distance local movements), but does cover the shipments of these products from the initial processing centers or terminal elevators onward.

MILEAGE CALCULATIONS

To compute shipment mileages for the 1997 CFS, The Center for Transportation Analysis (CTA) at Oak Ridge National Laboratory (ORNL) developed an integrated, intermodal transportation network modeling system. A secure data site was setup at ORNL to process census-supplied files containing data elements for individual CFS shipment records. Each record contained the ZIP Code of shipment origin and destination, and the mode or mode sequence reported. Each record also contained information on the type of commodity moved, its weight, dollar value and whether containerized or a hazardous material. Export shipments were also identified on the records, along with data on U.S. port of exit and foreign destination city and country. Encrypted data files were transmitted and returned from ORNL after processing, with turnaround of most files on a week-by-week basis. In this manner many shipment-specific data problems encountered by ORNL in their routing procedures were reported back to census in a timely fashion, allowing census to call back some shippers and thereby confirm, correct, or recover missing or otherwise unusable data. The ORNL system computed mileages, by mode, for all single modes and for any reported

multimodal sequence. This was done for any origin-destination pair of domestic ZIP Code locations, and for any internal ZIP Code of origin, via U.S. export port, to foreign (export) destination. Mileages between origin-destination ZIP Code centroids were computed by finding the minimum impedance path over mathematical representations of the highway, rail, waterway, air, and pipeline networks and then summing the lengths of individual links on these paths. Impedance is computed as a weighted combination of distance, time, and cost factors.

The ORNL multimodal network database is composed of individual modal-specific networks representing each of the major transportation modes—highway, rail, waterway, air, and pipeline. The links of these specific modal networks are the representation of line-haul transportation facilities. The nodes represent intersections and interchanges, and the access points to the transportation network. To simulate local access, test links are created from each five-digit ZIP Code centroid to nearby nodes on the network. For the truck network, local access is assumed to exist everywhere. For the other modes this is not true. Before any test links are created for these modes, a search procedure is used to determine if and where such networks are most likely to provide access to the ZIP Code. For shipments involving more than one mode, such as truck-rail or rail-water shipments, intermodal transfer links are added to the network database for the purpose of connecting the individual modal networks together for routing purposes. An intermodal terminals database and a number of terminal transfer models were developed at ORNL to identify likely transfer points for different classes of freight. A measure of link impedance was calculated for each access, line-haul, and intermodal transfer link traversed by a shipment. These impedances were mode specific and are based on various link characteristics. For example, the set of link characteristics for the highway network included speed impacting factors, such as the presence of divided or undivided roadway, the degree of access control, rural or urban setting, type of pavement, number of lanes, degree of urban congestion, and length of the link. Link impedance measures are also assigned to the local access links. Intermodal transfer link impedances are estimated in terms of the time it takes to move goods through such a transfer. In the case of rail and air freight, intercarrier transfer penalties are also considered in order to obtain proper route selections. A minimum path algorithm is used to find the minimum impedance path between a shipment's origin ZIP Code centroid and destination ZIP Code centroid. The cumulative length of the local access plus line-haul links on this path provides the estimated shipment distance. When rail was involved these shipment distances may be averaged over more than one path between an origin-destination pair.

Mileage Data for Pipeline Shipments

In the tables, we do not show ton-miles or average miles per shipment for pipeline shipments. For most of these shipments, the respondents reported the shipment

destination as a pipeline facility on the main pipeline network. Therefore, for the majority of these shipments, the resulting mileage represented only the access distance through feeder pipelines to the main pipeline network, and not the actual distance through the main pipeline network. Pipeline shipments are included in the U.S. totals for ton-miles and average miles per shipment.

DISCLOSURE RULES

In accordance with Federal law governing Census Bureau reports, no data are published that would disclose the operations of an individual firm or establishment.

EXPLANATION OF TERMS

Average miles per shipment. For the 1993 CFS, we excluded shipments of STCC 27, Printed Matter, from our calculation of average miles per shipment. We made this decision after determining that respondents in the 1993 CFS shipping newspapers, magazines, catalogs, etc., had used widely varying definitions of the term “shipment.”

For the 1997 CFS, we made numerous efforts throughout our data collection and editing to produce consistent results from establishments shipping SCTG 29, Printed Products. As a result, we have included printed products in the average miles per shipment calculations for the 1997 CFS.

Commodity. Products that an establishment produces, sells, or distributes. This does not include items that are considered as excess or byproducts of the establishment’s operation. Respondents reported the description and the five-digit SCTG code for the major commodity contained in the shipment, defined as the commodity with the greatest weight in the total shipment.

Distance shipped. In some tables, shipment data are presented for various “distance shipped” intervals. Shipments were categorized into these “distance shipped” intervals based on the great circle distance between their origin and destination ZIP Code centroids. All other distance-related data in this and other tables (i.e., ton-miles and average miles per shipment) are based on the mileage calculations produced by Oak Ridge National Laboratories. (See the “Mileage Calculations” section for more details.)

Great circle distance. The shortest distance between two points on the earth’s surface.

Mode of transportation. The type of transportation used for moving the shipment to its domestic destination. For exports, the domestic destination was the port of exit.

Mode Definitions

In the instructions to the respondent, we defined the possible modes as follows:

1. **Parcel delivery/courier/U.S. Postal Service.** Delivery services, parcels, packages, and other small shipments that typically weigh less than 100 pounds. Includes bus parcel delivery service.
2. **Private truck.** Trucks operated by a temporary or permanent employee of an establishment or the buyer/receiver of the shipment.
3. **For-hire truck.** Trucks that carry freight for a fee collected from the shipper, recipient of the shipment, or an arranger of the transportation.
4. **Railroad.** Any common carrier or private railroad.
5. **Shallow draft vessels.** Barges, ships, or ferries operating primarily on rivers and canals; in harbors, the Great Lakes, the Saint Lawrence Seaway; the Intracoastal Waterway, the Inside Passage to Alaska, major bays and inlets; or in the ocean close to the shoreline.
6. **Deep draft vessel.** Barges, ships, or ferries operating primarily in the open ocean. Shipping on the Great Lakes and the Saint Lawrence Seaway is classified with shallow draft vessels.
7. **Pipeline.** Movements of oil, petroleum, gas, slurry, etc., through pipelines that extend to other establishments or locations beyond the shipper’s establishment. Aqueducts for the movement of water are not included.
8. **Air.** Commercial or private aircraft, and all air service for shipments that typically weigh more than 100 pounds. Includes air freight and air express.
9. **Other mode.** Any mode not listed above.
10. **Unknown.** The shipment was not carried by a parcel delivery/courier/U.S. Postal Service, and the respondent could not determine what mode of transportation was used.

In the tables, we have used additional terms for mode, which we define as follows:

1. **Air (includes truck and air).** Shipments that used air or a combination of truck and air.
2. **Single modes.** Shipments using only one of the above-listed modes, except parcel or other and unknown.
3. **Multiple modes.** Parcel, U.S. Postal Service or courier shipments or shipments for which two or more of the following modes of transportation were used:
 - Private truck
 - For-hire truck
 - Rail
 - Shallow draft vessel
 - Deep draft vessel
 - Pipeline

We did not allow for multiple modes in combination with “parcel, U.S. Postal Service or courier,” “unknown,” or “other.” By their nature, these shipments may already include various kinds of multiple-mode activity. For example, if the respondent reported a shipment’s mode of transportation as parcel and air, we treated the shipment as parcel only.

4. **Other multiple modes.** Shipments using any other mode combinations not specifically listed in the tables.
5. **Other and unknown modes.** Shipments for which modes were not reported, or were reported by the respondent as “Other” or “Unknown.”
6. **Truck.** Shipments using for-hire truck only, private truck only, or a combination of for-hire truck and private truck.
7. **Water.** Shipments using shallow draft vessel only, deep draft vessel only, or Great Lakes vessel only. Combinations of these modes, such as shallow draft vessel and Great Lakes vessel are included as “Other multiple modes.”
8. **Great Lakes.** In the tables in this publication, “Great Lakes” appears as a single mode. ORNL’s transportation network and mileage calculation system allowed for separate mileage calculations for Great Lakes between the origin and destination ZIP Codes (see the “Mileage Calculations” section for more details).

Other Definitions and Terms

Shipment. A shipment (or delivery) is an individual movement of commodities from an establishment to a customer or to another location of the originating company (including a warehouse, distribution center, retail or wholesale outlet). A shipment uses one or more modes of transportation including parcel delivery, U.S. Postal Service, courier, private truck, for-hire truck, rail, water, pipeline, air, and other modes.

Standard Classification of Transported Goods

(SCTG). The commodities shown in this report are classified using the SCTG coding system. The SCTG coding system was developed jointly by agencies of the United States and Canadian governments based on the Harmonized System to address statistical needs in regard to products transported.

Ton-miles. The weight times the mileage for a shipment. The respondents reported shipment weight in pounds, as described below. Mileage was calculated as the distance between the shipment origin and destination ZIP Codes. For shipments by truck, rail, or shallow draft vessels, the mileage excludes international segments. For example, mileages from Alaska to the continental United States

exclude any mileages through Canada (see the “Mileage Calculations” section for more details). Aggregated pound-miles were converted to ton-miles. The ton-miles data are displayed in millions.

Tons shipped. The total weight of the entire shipment. Respondents reported the weight in pounds. Aggregated pounds were converted to short-tons (2,000 pounds). The tons data are displayed in thousands.

Total modal activity. The overall activity (e.g., ton-miles) of a specific mode of transportation, whether used in a single-mode shipment, or as part of a multiple-mode shipment. For example, the total modal activity for private truck is the total ton-miles carried by private truck in single-mode shipments, combined with the total ton-miles carried by private truck in all multiple-mode shipments that include private truck (private truck and for-hire truck, private truck and rail, private truck and air, etc.)

Value of shipments. The dollar value of the entire shipment. This was defined as the net selling value, f.o.b. plant, exclusive of freight charges and excise taxes. The value data are displayed in millions of dollars.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables for this publication:

D	Denotes figures withheld to avoid disclosing data for individual companies.
–	Represents zero or less than 1 unit of measure.
S	Data do not meet publication standards due to high sampling variability or other reasons.
CFS	Commodity Flow Survey.
lb	Pounds.
n.e.c.	Not elsewhere classified.
NA	Not applicable.
n.o.s.	Not otherwise specified.

OTHER TRANSPORTATION DATA

Users of transportation data may be especially interested in the following reports:

Economic Census: Transportation Sector covers establishments that provide passenger and freight transportation to the general public, government, or other businesses.

Published data include kind of business, geographic location, total operating revenue, annual and first quarter payroll, and number of employees for pay period including March 12.

Vehicle Inventory and Use Survey covers state and U.S. level statistics on the physical and operational characteristics of the Nation’s truck, van, minivan, and sport utility vehicle population. Some of the types of data collected

include number of vehicles, major use, body type, annual miles, model year, vehicle size, fuel type, operator classification, engine size, range of operation, weeks operated, products carried, and hazardous materials carried. This survey shows comparative statistics reflecting percent changes in number of vehicles between 1997 and 1992 for most characteristics.

Transportation Annual Survey covers firms with paid employees that provide commercial motor freight transportation and public warehousing services. Data collected include operating revenue and operating revenue by

source, total expenses and expenses percentage of motor carrier freight revenue by commodity type, size of shipments handled, length of haul, and vehicle fleet inventory.

All results of the 1997 Economic Census are available on the Census Bureau Internet site <http://www.census.gov> and on compact discs (CD-ROM).

For more information on any Census Bureau product, including a description of electronic and printed reports being issued, see the web site or call Customer Services at 301-457-4100.

Table 1a. Shipment Characteristics by Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
All modes	151 478	100.0	264 047	100.0	52 144	100.0	691
Single modes	122 298	80.7	226 438	85.8	45 081	86.5	174
Truck ¹	71 753	47.4	170 229	64.5	20 054	38.5	120
For-hire truck	32 516	21.5	50 698	19.2	14 387	27.6	668
Private truck	38 816	25.6	117 136	44.4	5 444	10.4	43
Rail	4 634	3.1	14 443	5.5	15 134	29.0	1 020
Water	3 941	2.6	25 799	9.8	8 356	16.0	1 326
Shallow draft	1 725	1.1	14 348	5.4	2 731	5.2	299
Great Lakes	—	—	—	—	—	—	—
Deep draft	2 215	1.5	11 451	4.3	5 625	10.8	1 728
Air (includes truck and air)	38 504	25.4	108	—	193	.4	2 078
Pipeline ²	3 467	2.3	15 859	6.0	S	S	S
Multiple modes	20 478	13.5	3 679	1.4	4 479	8.6	1 458
Parcel, U.S. Postal Service or courier	18 386	12.1	404	.2	469	.9	1 458
Truck and rail	1 280	.8	1 530	.6	2 402	4.6	2 029
Truck and water	723	.5	1 625	.6	1 393	2.7	1 468
Rail and water	S	S	S	S	S	S	1 739
Other multiple modes	S	S	S	S	S	S	2 074
Other and unknown modes	8 702	5.7	33 930	12.8	2 584	5.0	120

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 1b. Shipment Characteristics by Mode of Transportation for State of Origin: 1997 and 1993

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation	Value			Tons			Ton-miles			Average miles per shipment		
	1997 (million dollars)	1993 (million dollars)	Percent change	1997 (thousands)	1993 (thousands)	Percent change	1997 (millions)	1993 (millions)	Percent change	1997	1993	Percent change
All modes	151 478	123 242	22.9	264 047	259 359	1.8	52 144	52 071	.1	691	436	58.5
Single modes	122 298	94 453	29.5	226 438	233 660	-3.1	45 081	44 572	1.1	174	242	-28.3
Truck ¹	71 753	79 757	-10.0	170 229	190 460	-10.6	20 054	22 907	-12.5	120	146	-17.7
For-hire truck	32 516	40 979	-20.7	50 698	73 292	-30.8	14 387	17 662	-18.5	668	551	21.4
Private truck	38 816	38 608	.5	117 136	112 426	4.2	5 444	4 922	10.6	43	46	-8.1
Rail	4 634	4 458	3.9	14 443	15 477	-6.7	15 134	10 443	44.9	1 020	670	52.3
Water	3 941	2 571	53.3	25 799	19 889	29.7	8 356	9 301	-10.2	1 326	1 889	-29.8
Shallow draft	1 725	1 380	25.0	14 348	14 524	-1.2	2 731	1 382	97.6	299	121	148.1
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	2 215	1 191	86.0	11 451	S	S	5 625	S	S	1 728	2 272	-23.9
Air (includes truck and air)	38 504	6 168	524.2	108	109	-.6	193	146	32.4	2 078	1 703	22.0
Pipeline ²	3 467	1 499	131.2	15 859	7 724	105.3	S	S	S	S	S	S
Multiple modes	20 478	11 505	78.0	3 679	2 152	71.0	4 479	2 663	68.2	1 458	810	80.0
Parcel, U.S. Postal Service or courier ..	18 386	10 337	77.9	404	291	38.8	469	229	104.6	1 458	805	81.2
Truck and rail	1 280	380	237.3	1 530	574	166.7	2 402	1 132	112.2	2 029	1 906	6.4
Truck and water	723	763	-5.1	1 625	1 237	31.4	1 393	1 109	25.7	1 468	1 342	9.4
Rail and water	S	S	S	S	S	S	S	S	S	1 739	2 644	-34.2
Other multiple modes	S	20	S	S	S	S	S	S	S	2 074	5 617	-63.1
Other and unknown modes ...	8 702	17 284	-49.7	33 930	23 547	44.1	2 584	S	S	120	258	-53.6

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 1c. Shipment Characteristics by Mode of Transportation for State of Origin: Percent of Total for 1997 and 1993

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	100.0	100.0	100.0	100.0	100.0	100.0
Single modes	80.7	76.6	85.8	90.1	86.5	85.6
Truck ¹	47.4	64.7	64.5	73.4	38.5	44.0
For-hire truck	21.5	33.3	19.2	28.3	27.6	33.9
Private truck	25.6	31.3	44.4	43.3	10.4	9.5
Rail	3.1	3.6	5.5	6.0	29.0	20.1
Water	2.6	2.1	9.8	7.7	16.0	17.9
Shallow draft	1.1	1.1	5.4	5.6	5.2	2.7
Great Lakes	—	—	—	—	—	—
Deep draft	1.5	1.0	4.3	S	10.8	S
Air (includes truck and air)	25.4	5.0	—	—	.4	.3
Pipeline ²	2.3	1.2	6.0	3.0	S	S
Multiple modes	13.5	9.3	1.4	.8	8.6	5.1
Parcel, U.S. Postal Service or courier	12.1	8.4	.2	.1	.9	.4
Truck and rail .....	.8	.3	.6	.2	4.6	2.2
Truck and water .....	.5	.6	.6	.5	2.7	2.1
Rail and water	S	S	S	S	S	S
Other multiple modes	S	—	S	S	S	S
Other and unknown modes	5.7	14.0	12.8	9.1	5.0	S

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 2. Shipment Characteristics by Total Modal Activity for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation ¹	Ton-miles		Average miles per shipment
	Number (millions)	Percent	
Total	52 144	100.0	681
Truck	20 463	39.2	119
Rail	17 615	33.8	1 178
Shallow draft	2 965	5.7	251
Great Lakes	—	—	—
Deep draft	6 514	12.5	1 785
Air	187	.4	1 982
Parcel, U.S. Postal Service or courier	469	.9	1 458
Pipeline	S	S	S
Other and unknown modes	2 588	5.0	120

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹Data represent activity for a given mode across single and multiple mode shipments. For example, "Truck" ton-miles includes total ton-miles for shipments moving by truck only plus ton-miles for truck segments only of multiple mode shipments.

Table 3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
All modes	151 478	100.0	264 047	100.0	52 144	100.0
Less than 50 miles	62 801	41.5	183 907	69.6	3 358	6.4
50 to 99 miles	8 907	5.9	22 441	8.5	2 026	3.9
100 to 249 miles	14 751	9.7	25 678	9.7	5 545	10.6
250 to 499 miles	3 823	2.5	9 471	3.6	3 676	7.0
500 to 749 miles	5 812	3.8	4 509	1.7	3 662	7.0
750 to 999 miles	9 664	6.4	3 785	1.4	4 461	8.6
1,000 to 1,499 miles	10 021	6.6	6 872	2.6	10 555	20.2
1,500 to 1,999 miles	19 172	12.7	4 663	1.8	10 925	21.0
2,000 miles or more	16 526	10.9	2 720	1.0	7 937	15.2
Single modes	122 298	100.0	226 438	100.0	45 081	100.0
Less than 50 miles	53 879	44.1	153 293	67.7	3 089	6.9
50 to 99 miles	8 056	6.6	21 824	9.6	1 948	4.3
100 to 249 miles	12 599	10.3	22 631	10.0	4 741	10.5
250 to 499 miles	3 077	2.5	9 307	4.1	3 610	8.0
500 to 749 miles	4 415	3.6	4 056	1.8	3 449	7.7
750 to 999 miles	7 713	6.3	3 388	1.5	4 009	8.9
1,000 to 1,499 miles	7 569	6.2	5 758	2.5	8 546	19.0
1,500 to 1,999 miles	14 133	11.6	3 977	1.8	9 325	20.7
2,000 miles or more	10 856	8.9	2 204	1.0	6 364	14.1
Truck¹	71 753	100.0	170 229	100.0	20 054	100.0
Less than 50 miles	35 177	49.0	134 558	79.0	2 856	14.2
50 to 99 miles	6 064	8.5	12 845	7.5	1 290	6.4
100 to 249 miles	10 445	14.6	12 580	7.4	2 452	12.2
250 to 499 miles	2 168	3.0	1 949	1.1	842	4.2
500 to 749 miles	3 387	4.7	2 274	1.3	1 749	8.7
750 to 999 miles	3 327	4.6	1 973	1.2	2 174	10.8
1,000 to 1,499 miles	2 368	3.3	1 251	.7	1 773	8.8
1,500 to 1,999 miles	4 123	5.7	1 518	.9	3 310	16.5
2,000 miles or more	4 695	6.5	1 281	.8	3 609	18.0
For-hire truck	32 516	100.0	50 698	100.0	14 387	100.0
Less than 50 miles	7 275	22.4	27 360	54.0	741	5.1
50 to 99 miles	2 766	8.5	6 861	13.5	712	5.0
100 to 249 miles	5 391	16.6	7 904	15.6	1 537	10.7
250 to 499 miles	1 513	4.7	1 448	2.9	623	4.3
500 to 749 miles	2 816	8.7	1 912	3.8	1 478	10.3
750 to 999 miles	3 023	9.3	1 803	3.6	1 989	13.8
1,000 to 1,499 miles	2 037	6.3	1 064	2.1	1 498	10.4
1,500 to 1,999 miles	3 656	11.2	1 265	2.5	2 765	19.4
2,000 miles or more	4 040	12.4	1 082	2.1	3 044	21.2
Private truck	38 816	100.0	117 136	100.0	5 444	100.0
Less than 50 miles	27 738	71.5	105 431	90.0	2 038	37.4
50 to 99 miles	3 270	8.4	5 824	5.0	561	10.3
100 to 249 miles	4 915	12.7	4 287	3.7	847	15.6
250 to 499 miles	620	1.6	472	.4	208	3.8
500 to 749 miles	546	1.4	340	.3	254	4.7
750 to 999 miles	281	.7	147	.1	158	2.9
1,000 to 1,499 miles	328	.8	185	.2	272	5.0
1,500 to 1,999 miles	462	1.2	251	.2	541	9.9
2,000 miles or more	655	1.7	199	.2	564	10.4
Rail	4 634	100.0	14 443	100.0	15 134	100.0
Less than 50 miles	365	7.9	2 405	16.7	43	.3
50 to 99 miles	37	.8	137	1.0	15	.1
100 to 249 miles	375	8.1	2 319	16.1	682	4.5
250 to 499 miles	223	4.8	S	S	S	S
500 to 749 miles	419	9.0	1 768	12.2	1 692	11.2
750 to 999 miles	631	13.6	1 365	9.4	1 784	11.8
1,000 to 1,499 miles	482	10.4	955	6.6	1 644	10.9
1,500 to 1,999 miles	1 498	32.3	2 360	16.3	5 805	38.4
2,000 miles or more	603	13.0	780	5.4	2 352	15.5
Water	3 941	100.0	25 799	100.0	8 356	100.0
Less than 50 miles	1 550	39.3	13 002	50.4	176	2.1
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	489	12.4	3 479	13.5	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	16	.4	S	S	S	S
750 to 999 miles	63	1.6	S	S	S	S
1,000 to 1,499 miles	S	S	3 532	13.7	5 094	61.0
1,500 to 1,999 miles	87	2.2	S	S	S	S
2,000 miles or more	44	1.1	S	S	S	S
Shallow draft	1 725	100.0	14 348	100.0	2 731	100.0
Less than 50 miles	470	27.2	5 316	37.0	158	5.8
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	489	28.3	3 479	24.2	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

Table 3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Single modes—Con.						
Great Lakes	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	2 215	100.0	11 451	100.0	5 625	100.0
Less than 50 miles	S	S	S	S	18	.3
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	3 532	30.8	5 094	90.6
1,500 to 1,999 miles	87	3.9	S	S	S	S
2,000 miles or more	44	2.0	S	S	S	S
Air (includes truck and air)	38 504	100.0	108	100.0	193	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	171	.4	3	2.7	1	.4
250 to 499 miles	96	.2	S	S	S	S
500 to 749 miles	594	1.5	3	3.1	3	1.8
750 to 999 miles	S	S	10	9.5	12	6.2
1,000 to 1,499 miles	S	S	20	18.1	34	17.6
1,500 to 1,999 miles	8 424	21.9	15	14.2	36	18.7
2,000 miles or more	5 514	14.3	32	29.6	101	52.1
Pipeline²	3 467	100.0	15 859	100.0	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	1 119	32.3	4 251	26.8	S	S
250 to 499 miles	—	—	—	—	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	20 478	100.0	3 679	100.0	4 479	100.0
Less than 50 miles	3 494	17.1	S	S	S	S
50 to 99 miles	615	3.0	153	4.2	24	.5
100 to 249 miles	1 580	7.7	S	S	S	S
250 to 499 miles	638	3.1	S	S	S	S
500 to 749 miles	1 284	6.3	150	4.1	136	3.0
750 to 999 miles	1 828	8.9	356	9.7	405	9.0
1,000 to 1,499 miles	1 919	9.4	426	11.6	768	17.1
1,500 to 1,999 miles	3 942	19.3	524	14.2	1 236	27.6
2,000 miles or more	5 177	25.3	482	13.1	1 474	32.9
Parcel, U.S. Postal Service or courier	18 386	100.0	404	100.0	469	100.0
Less than 50 miles	3 368	18.3	84	20.7	3	.5
50 to 99 miles	561	3.1	24	5.9	2	.5
100 to 249 miles	1 376	7.5	61	15.1	13	2.8
250 to 499 miles	625	3.4	23	5.7	10	2.2
500 to 749 miles	1 176	6.4	25	6.2	20	4.2
750 to 999 miles	1 447	7.9	24	6.0	27	5.7
1,000 to 1,499 miles	1 649	9.0	27	6.8	40	8.6
1,500 to 1,999 miles	3 442	18.7	52	12.8	114	24.4
2,000 miles or more	4 741	25.8	84	20.7	239	51.0
Truck and rail	1 280	100.0	1 530	100.0	2 402	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	30	2.4	S	S	S	S
100 to 249 miles	93	7.3	99	6.5	29	1.2
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	11	.8	S	S	S	S
750 to 999 miles	272	21.2	208	13.6	250	10.4
1,000 to 1,499 miles	63	4.9	S	S	S	S
1,500 to 1,999 miles	390	30.5	341	22.3	853	35.5
2,000 miles or more	358	28.0	299	19.5	944	39.3
Truck and water	723	100.0	1 625	100.0	1 393	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	98	13.5	S	S	S	S
750 to 999 miles	80	11.0	74	4.5	72	5.1
1,000 to 1,499 miles	181	25.0	218	13.4	408	29.3
1,500 to 1,999 miles	110	15.2	131	8.1	269	19.3
2,000 miles or more	66	9.2	77	4.8	222	16.0

See footnotes at end of table.

Table 3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Multiple modes—Con.						
Rail and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other and unknown modes	8 702	100.0	33 930	100.0	2 584	100.0
Less than 50 miles	5 428	62.4	30 134	88.8	246	9.5
50 to 99 miles	236	2.7	465	1.4	54	2.1
100 to 249 miles	572	6.6	2 036	6.0	430	16.6
250 to 499 miles	108	1.2	67	.2	27	1.0
500 to 749 miles	113	1.3	S	S	S	S
750 to 999 miles	123	1.4	41	.1	47	1.8
1,000 to 1,499 miles	533	6.1	S	S	S	S
1,500 to 1,999 miles	1 097	12.6	S	S	S	S
2,000 miles or more	493	5.7	34	.1	99	3.8

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 4. Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
All modes	151 478	100.0	264 047	100.0	52 144	100.0	691
Less than 50 lb	16 941	11.2	436	.2	269	.5	878
50 to 99 lb	5 500	3.6	317	.1	128	.2	409
100 to 499 lb	12 358	8.2	1 783	.7	396	.8	231
500 to 749 lb	3 691	2.4	871	.3	170	.3	187
750 to 999 lb	2 430	1.6	638	.2	157	.3	250
1,000 to 9,999 lb	20 591	13.6	11 010	4.2	2 292	4.4	215
10,000 to 49,999 lb	30 173	19.9	65 026	24.6	15 496	29.7	222
50,000 to 99,999 lb	15 059	9.9	85 796	32.5	5 227	10.0	60
100,000 lb or more	44 735	29.5	98 168	37.2	28 007	53.7	775
Single modes	122 298	100.0	226 438	100.0	45 081	100.0	174
Less than 50 lb	4 425	3.6	239	.1	43	.1	176
50 to 99 lb	2 483	2.0	229	.1	44	.1	193
100 to 499 lb	8 832	7.2	1 607	.7	260	.6	153
500 to 749 lb	3 170	2.6	834	.4	146	.3	168
750 to 999 lb	2 066	1.7	600	.3	115	.3	195
1,000 to 9,999 lb	19 188	15.7	10 492	4.6	2 021	4.5	193
10,000 to 49,999 lb	27 248	22.3	61 849	27.3	13 295	29.5	200
50,000 to 99,999 lb	14 601	11.9	84 269	37.2	4 519	10.0	53
100,000 lb or more	40 284	32.9	66 318	29.3	24 637	54.6	751
Truck¹	71 753	100.0	170 229	100.0	20 054	100.0	120
Less than 50 lb	3 419	4.8	232	.1	28	.1	97
50 to 99 lb	1 955	2.7	222	.1	29	.1	130
100 to 499 lb	7 611	10.6	1 591	.9	231	1.1	134
500 to 749 lb	2 783	3.9	820	.5	123	.6	142
750 to 999 lb	1 926	2.7	593	.3	104	.5	176
1,000 to 9,999 lb	18 858	26.3	10 451	6.1	1 964	9.8	187
10,000 to 49,999 lb	24 324	33.9	61 147	35.9	12 350	61.6	188
50,000 to 99,999 lb	8 263	11.5	82 586	48.5	3 801	19.0	47
100,000 lb or more	2 614	3.6	12 587	7.4	1 426	7.1	158
For-hire truck	32 516	100.0	50 698	100.0	14 387	100.0	668
Less than 50 lb	574	1.8	27	—	19	.1	737
50 to 99 lb	436	1.3	27	—	20	.1	767
100 to 499 lb	2 361	7.3	199	.4	156	1.1	787
500 to 749 lb	1 102	3.4	104	.2	87	.6	821
750 to 999 lb	753	2.3	86	.2	72	.5	837
1,000 to 9,999 lb	8 400	25.8	2 171	4.3	1 403	9.8	730
10,000 to 49,999 lb	13 738	42.2	20 542	40.5	9 446	65.7	486
50,000 to 99,999 lb	3 776	11.6	22 572	44.5	2 101	14.6	92
100,000 lb or more	1 378	4.2	4 969	9.8	1 082	7.5	256
Private truck	38 816	100.0	117 136	100.0	5 444	100.0	43
Less than 50 lb	2 837	7.3	204	.2	9	.2	36
50 to 99 lb	1 514	3.9	194	.2	8	.2	43
100 to 499 lb	5 213	13.4	1 386	1.2	73	1.3	49
500 to 749 lb	1 673	4.3	713	.6	35	.6	48
750 to 999 lb	1 166	3.0	503	.4	31	.6	61
1,000 to 9,999 lb	10 331	26.6	8 147	7.0	553	10.2	64
10,000 to 49,999 lb	10 461	27.0	40 352	34.4	2 848	52.3	64
50,000 to 99,999 lb	4 449	11.5	58 758	50.2	1 600	29.4	28
100,000 lb or more	1 172	3.0	6 880	5.9	288	5.3	62
Rail	4 634	100.0	14 443	100.0	15 134	100.0	1 020
Less than 50 lb	S	S	S	S	S	S	891
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	—	—	996
500 to 749 lb	S	S	S	S	S	S	3 140
750 to 999 lb	S	S	S	S	S	S	1 000
1,000 to 9,999 lb	15	.3	S	S	S	S	1 962
10,000 to 49,999 lb	487	10.5	455	3.1	717	4.7	1 580
50,000 to 99,999 lb	301	6.5	1 568	10.9	597	3.9	S
100,000 lb or more	3 830	82.6	12 413	86.0	13 808	91.2	1 152
Water	3 941	100.0	25 799	100.0	8 356	100.0	1 326
Less than 50 lb	S	S	S	S	S	S	1 676
50 to 99 lb	S	S	S	S	—	—	525
100 to 499 lb	S	S	S	S	S	S	1 675
500 to 749 lb	S	S	S	S	S	S	S
750 to 999 lb	11	.3	4	—	S	S	1 718
1,000 to 9,999 lb	84	2.1	22	—	23	.3	1 272
10,000 to 49,999 lb	83	2.1	S	S	179	2.1	996
50,000 to 99,999 lb	26	.7	S	S	100	1.2	1 091
100,000 lb or more	3 646	92.5	25 465	98.7	8 036	96.2	466
Shallow draft	1 725	100.0	14 348	100.0	2 731	100.0	299
Less than 50 lb	S	S	S	S	S	S	341
50 to 99 lb	S	S	S	S	S	S	359
100 to 499 lb	S	S	S	S	S	S	399
500 to 749 lb	S	S	S	S	S	S	376
750 to 999 lb	S	S	S	S	S	S	82
1,000 to 9,999 lb	S	S	S	S	S	S	131
10,000 to 49,999 lb	S	S	S	S	S	S	259
50,000 to 99,999 lb	S	S	S	S	S	S	34
100,000 lb or more	1 631	94.5	14 314	99.8	2 724	99.7	159

See footnotes at end of table.

Table 4. Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Single modes—Con.							
Great Lakes	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	2 215	100.0	11 451	100.0	5 625	100.0	1 728
Less than 50 lb	S	S	S	S	S	S	1 764
50 to 99 lb	S	S	S	S	S	S	1 917
100 to 499 lb	S	S	S	S	S	S	1 869
500 to 749 lb	2	—	—	—	—	—	2 041
750 to 999 lb	S	S	S	S	S	S	2 070
1,000 to 9,999 lb	47	2.1	14	.1	21	.4	1 663
10,000 to 49,999 lb	69	3.1	S	S	175	3.1	1 100
50,000 to 99,999 lb	21	.9	S	S	100	1.8	1 096
100,000 lb or more	2 015	91.0	11 150	97.4	5 312	94.4	1 289
Air (includes truck and air)	38 504	100.0	108	100.0	193	100.0	2 078
Less than 50 lb	998	2.6	7	6.6	15	7.9	2 074
50 to 99 lb	525	1.4	7	6.4	S	S	2 220
100 to 499 lb	1 167	3.0	11	9.8	21	10.7	2 004
500 to 749 lb	S	S	12	10.7	22	11.3	1 879
750 to 999 lb	S	S	2	2.1	4	2.2	1 941
1,000 to 9,999 lb	232	.6	13	12.0	23	11.6	1 768
10,000 to 49,999 lb	S	S	21	19.1	S	S	1 875
50,000 to 99,999 lb	6 005	15.6	10	8.9	S	S	2 024
100,000 lb or more	26 737	69.4	26	24.4	26	13.7	852
Pipeline²	3 467	100.0	15 859	100.0	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	3 457	99.7	15 827	99.8	S	S	S
Multiple modes	20 478	100.0	3 679	100.0	4 479	100.0	1 458
Less than 50 lb	11 802	57.6	178	4.8	225	5.0	1 482
50 to 99 lb	2 783	13.6	77	2.1	83	1.9	1 085
100 to 499 lb	3 146	15.4	122	3.3	128	2.9	1 095
500 to 749 lb	459	2.2	21	.6	23	.5	1 115
750 to 999 lb	317	1.5	24	.7	39	.9	1 594
1,000 to 9,999 lb	176	.9	83	2.3	151	3.4	1 720
10,000 to 49,999 lb	1 032	5.0	991	26.9	1 825	40.8	1 818
50,000 to 99,999 lb	205	1.0	S	S	570	12.7	S
100,000 lb or more	559	2.7	1 419	38.6	1 434	32.0	1 740
Parcel, U.S. Postal Service or courier	18 386	100.0	404	100.0	469	100.0	1 458
Less than 50 lb	11 800	64.2	178	44.1	224	47.9	1 482
50 to 99 lb	2 781	15.1	77	19.0	83	17.6	1 082
100 to 499 lb	3 106	16.9	116	28.8	119	25.3	1 078
500 to 749 lb	444	2.4	17	4.1	18	3.7	1 048
750 to 999 lb	249	1.4	16	3.9	S	S	1 648
1,000 to 9,999 lb	S	S	S	S	S	S	16
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	1 280	100.0	1 530	100.0	2 402	100.0	2 029
Less than 50 lb	S	S	S	S	S	S	2 377
50 to 99 lb	S	S	S	S	S	S	1 340
100 to 499 lb	S	S	—	—	S	S	2 950
500 to 749 lb	S	S	S	S	S	S	S
750 to 999 lb	S	S	S	S	S	S	3 189
1,000 to 9,999 lb	22	1.8	3	.2	7	.3	1 902
10,000 to 49,999 lb	729	57.0	512	33.5	1 092	45.5	2 098
50,000 to 99,999 lb	87	6.8	84	5.5	159	6.6	1 989
100,000 lb or more	437	34.1	930	60.8	1 144	47.6	1 969
Truck and water	723	100.0	1 625	100.0	1 393	100.0	1 468
Less than 50 lb	S	S	—	—	—	—	1 283
50 to 99 lb	S	S	S	S	S	S	1 760
100 to 499 lb	38	5.2	6	.4	9	.7	1 521
500 to 749 lb	13	1.7	4	.2	6	.4	1 495
750 to 999 lb	S	S	9	.5	S	S	1 492
1,000 to 9,999 lb	148	20.4	79	4.9	145	10.4	1 744
10,000 to 49,999 lb	289	40.0	456	28.1	686	49.3	1 545
50,000 to 99,999 lb	S	S	S	S	377	27.1	S
100,000 lb or more	65	9.0	S	S	S	S	442

See footnotes at end of table.

Table 4. Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Multiple modes—Con.							
Rail and water	S	S	S	S	S	S	1 739
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	S	S	S	S	S	S	2 196
50,000 to 99,999 lb	S	S	S	S	S	S	1 158
100,000 lb or more	S	S	46	53.6	S	S	2 036
Other multiple modes	S	S	S	S	S	S	2 074
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	657
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	1 910
10,000 to 49,999 lb	S	S	S	S	S	S	1 998
50,000 to 99,999 lb	S	S	S	S	S	S	2 368
100,000 lb or more	S	S	S	S	S	S	—
Other and unknown modes	8 702	100.0	33 930	100.0	2 584	100.0	120
Less than 50 lb	713	8.2	19	—	1	—	95
50 to 99 lb	234	2.7	11	—	1	—	S
100 to 499 lb	380	4.4	53	.2	7	.3	S
500 to 749 lb	62	.7	16	—	1	—	S
750 to 999 lb	48	.5	14	—	3	.1	214
1,000 to 9,999 lb	1 227	14.1	435	1.3	120	4.6	436
10,000 to 49,999 lb	1 893	21.7	S	S	376	14.6	236
50,000 to 99,999 lb	253	2.9	763	2.2	138	5.3	S
100,000 lb or more	3 892	44.7	30 431	89.7	S	S	S

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 5. Shipment Characteristics by Two-Digit Commodity for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code	Commodity description	Value		Tons		Ton-miles		Average miles per shipment
		Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
	All commodities	151 478	100.0	264 047	100.0	52 144	100.0	691
01	Live animals and live fish	S	S	S	S	S	S	12
02	Cereal grains	4 854	3.2	38 256	14.5	3 561	6.8	150
03	Other agricultural products	3 051	2.0	5 410	2.0	2 984	5.7	S
04	Animal feed and products of animal origin, n.e.c.	1 009	.7	2 673	1.0	577	1.1	161
05	Meat, fish, seafood, and their preparations	5 753	3.8	1 771	.7	1 326	2.5	S
06	Milled grain products and preparations, and bakery products	1 804	1.2	2 144	.8	1 320	2.5	168
07	Other prepared foodstuffs and fats and oils	6 700	4.4	5 793	2.2	3 806	7.3	188
08	Alcoholic beverages	1 390	.9	1 327	.5	507	1.0	45
09	Tobacco products	191	.1	8	—	1	—	74
10	Monumental or building stone	S	S	S	S	S	S	S
11	Natural sands	S	S	4 931	1.9	267	.5	S
12	Gravel and crushed stone	356	.2	34 467	13.1	618	1.2	15
13	Nonmetallic minerals n.e.c.	63	—	847	.3	173	.3	S
14	Metallic ores and concentrates	S	S	S	S	S	S	S
15	Coal	S	S	S	S	S	S	4
17	Gasoline and aviation turbine fuel	4 953	3.3	19 730	7.5	4 329	8.3	22
18	Fuel oils	2 373	1.6	13 124	5.0	2 141	4.1	15
19	Coal and petroleum products, n.e.c.	890	.6	3 412	1.3	S	S	S
20	Basic chemicals	1 037	.7	2 860	1.1	2 038	3.9	89
21	Pharmaceutical products	2 856	1.9	92	—	S	S	1 005
22	Fertilizers	729	.5	4 119	1.6	S	S	S
23	Chemical products and preparations, n.e.c.	2 057	1.4	1 375	.5	S	S	221
24	Plastics and rubber	3 126	2.1	1 054	.4	543	1.0	322
25	Logs and other wood in the rough	3 485	2.3	59 210	22.4	3 442	6.6	44
26	Wood products	5 930	3.9	15 667	5.9	8 189	15.7	273
27	Pulp, newsprint, paper, and paperboard	3 238	2.1	5 494	2.1	4 113	7.9	334
28	Paper or paperboard articles	2 521	1.7	2 211	.8	878	1.7	221
29	Printed products	2 594	1.7	727	.3	191	.4	272
30	Textiles, leather, and articles of textiles or leather	4 601	3.0	385	.1	382	.7	1 147
31	Nonmetallic mineral products	1 669	1.1	14 302	5.4	1 406	2.7	S
32	Base metal in primary or semifinished forms and in finished basic shapes	5 057	3.3	4 112	1.6	2 873	5.5	206
33	Articles of base metal	3 331	2.2	1 113	.4	406	.8	299
34	Machinery	3 664	2.4	444	.2	331	.6	394
35	Electronic and other electrical equipment and components and office equipment	8 614	5.7	273	.1	168	.3	509
36	Motorized and other vehicles (including parts)	3 301	2.2	410	.2	352	.7	162
37	Transportation equipment, n.e.c.	37 588	24.8	148	—	167	.3	1 153
38	Precision instruments and apparatus	6 043	4.0	S	S	S	S	1 600
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	1 162	.8	318	.1	128	.2	393
40	Miscellaneous manufactured products	9 665	6.4	1 812	.7	774	1.5	1 729
41	Waste and scrap	522	.3	S	S	609	1.2	S
43	Mixed freight	3 152	2.1	1 558	.6	189	.4	S
--	Commodity unknown	S	S	S	S	S	S	544

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

Note: Data exclude shipments of SCTG 16, Crude Petroleum. See the section "Industry Coverage" for additional information.

Table 6. Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
ALL COMMODITIES							
Total	151 478	100.0	264 047	100.0	52 144	100.0	691
Single modes	122 298	80.7	226 438	85.8	45 081	86.5	174
Truck ¹	71 753	47.4	170 229	64.5	20 054	38.5	120
For-hire truck	32 516	21.5	50 698	19.2	14 387	27.6	668
Private truck	38 816	25.6	117 136	44.4	5 444	10.4	43
Rail	4 634	3.1	14 443	5.5	15 134	29.0	1 020
Water	3 941	2.6	25 799	9.8	8 356	16.0	1 326
Shallow draft	1 725	1.1	14 348	5.4	2 731	5.2	299
Great Lakes	—	—	—	—	—	—	—
Deep draft	2 215	1.5	11 451	4.3	5 625	10.8	1 728
Air (includes truck and air)	38 504	25.4	108	—	193	.4	2 078
Pipeline ²	3 467	2.3	15 859	6.0	S	S	S
Multiple modes	20 478	13.5	3 679	1.4	4 479	8.6	1 458
Parcel, U.S. Postal Service or courier	18 386	12.1	404	.2	469	.9	1 458
Truck and rail	1 280	.8	1 530	.6	2 402	4.6	2 029
Truck and water	723	.5	1 625	.6	1 393	2.7	1 468
Rail and water	S	S	S	S	S	S	1 739
Other multiple modes	S	S	S	S	S	S	2 074
Other and unknown modes	8 702	5.7	33 930	12.8	2 584	5.0	120
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	S	S	12
Single modes	S	S	S	S	S	S	12
Truck ¹	S	S	S	S	S	S	12
For-hire truck	—	—	—	—	—	—	—
Private truck	S	S	S	S	S	S	12
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 02, CEREAL GRAINS							
Total	4 854	100.0	38 256	100.0	3 561	100.0	150
Single modes	2 278	46.9	17 906	46.8	2 940	82.6	120
Truck ¹	297	6.1	2 277	6.0	193	5.4	S
For-hire truck	231	4.8	1 825	4.8	175	4.9	159
Private truck	66	1.4	451	1.2	19	.5	56
Rail	130	2.7	954	2.5	306	8.6	245
Water	1 852	38.2	14 675	38.4	2 441	68.5	280
Shallow draft	1 024	21.1	8 090	21.1	2 434	68.4	301
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	379
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	134
Truck and water	S	S	S	S	S	S	381
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	2 488	51.3	19 671	51.4	S	S	11

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	3 051	100.0	5 410	100.0	2 984	100.0	S
Single modes	2 725	89.3	4 131	76.4	2 879	96.5	S
Truck ¹	2 406	78.9	3 121	57.7	2 404	80.6	S
For-hire truck	1 178	38.6	1 860	34.4	2 004	67.1	677
Private truck	1 157	37.9	1 124	20.8	395	13.2	S
Rail	110	3.6	190	3.5	439	14.7	2 432
Water	S	S	S	S	S	S	157
Shallow draft	S	S	S	S	S	S	254
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	S	S	S	S	S	S	3 466
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	33	1.1	38	.7	94	3.2	1 799
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 271
Truck and rail	S	S	23	.4	62	2.1	2 814
Truck and water	S	S	S	S	S	S	2 608
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	1 009	100.0	2 673	100.0	577	100.0	161
Single modes	932	92.4	2 405	90.0	544	94.2	142
Truck ¹	908	90.0	2 300	86.1	540	93.5	142
For-hire truck	296	29.3	887	33.2	382	66.2	394
Private truck	569	56.4	1 229	46.0	121	21.1	56
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	362
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	10	.4	24	4.2	872
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	756
Truck and rail	S	S	S	S	S	S	2 171
Truck and water	S	S	S	S	S	S	2 432
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	59	5.8	257	9.6	9	1.6	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	5 753	100.0	1 771	100.0	1 326	100.0	S
Single modes	5 019	87.2	1 579	89.2	1 124	84.8	S
Truck ¹	4 605	80.0	1 257	71.0	644	48.6	S
For-hire truck	2 532	44.0	681	38.4	545	41.1	885
Private truck	2 058	35.8	573	32.4	99	7.5	58
Rail	S	S	S	S	S	S	843
Water	S	S	S	S	S	S	506
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 344
Air (includes truck and air)	61	1.1	9	.5	13	1.0	2 092
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	6	.4	1 971
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	2 002
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	5	.4	1 864
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	30
Other and unknown modes	681	11.8	182	10.3	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	1 804	100.0	2 144	100.0	1 320	100.0	168
Single modes	1 760	97.6	2 110	98.4	1 295	98.1	123
Truck ¹	1 604	88.9	1 793	83.7	764	57.9	S
For-hire truck	699	38.7	962	44.9	513	38.9	630
Private truck	858	47.6	775	36.1	214	16.2	87
Rail	S	S	S	S	S	S	1 630
Water	S	S	S	S	S	S	1 851
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 851
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	10	.4	S	S	1 326
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 287
Truck and rail	—	—	—	—	—	—	—
Truck and water	12	.7	8	.4	18	1.4	1 913
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	6 700	100.0	5 793	100.0	3 806	100.0	188
Single modes	6 537	97.6	5 646	97.4	3 609	94.8	132
Truck ¹	6 162	92.0	5 070	87.5	2 355	61.9	119
For-hire truck	1 898	28.3	1 932	33.4	1 439	37.8	688
Private truck	4 240	63.3	3 114	53.7	913	24.0	69
Rail	374	5.6	569	9.8	1 247	32.8	2 313
Water	S	S	S	S	S	S	1 119
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 119
Air (includes truck and air)	S	S	S	S	S	S	1 936
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	111	1.7	76	1.3	150	3.9	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	S	S	S	S	S	S	2 692
Truck and water	47	.7	49	.8	89	2.3	1 976
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	52	.8	72	1.2	47	1.2	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	1 390	100.0	1 327	100.0	507	100.0	45
Single modes	1 315	94.6	1 198	90.2	398	78.5	37
Truck ¹	1 303	93.7	1 182	89.0	369	72.9	35
For-hire truck	455	32.7	444	33.4	341	67.3	766
Private truck	848	61.0	738	55.6	28	5.6	20
Rail	S	S	S	S	S	S	2 444
Water	S	S	S	S	S	S	2 804
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	2 804
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 142
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	10
Truck and rail	S	S	S	S	S	S	108
Truck and water	S	S	S	S	S	S	1 320
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	29	2.1	S	S	S	S	30

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 09, TOBACCO PRODUCTS							
Total	191	100.0	8	100.0	1	100.0	74
Single modes	191	100.0	8	100.0	1	100.0	75
Truck ¹	191	100.0	8	100.0	1	100.0	75
For-hire truck	—	—	—	—	—	—	—
Private truck	191	100.0	8	100.0	1	100.0	75
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	2
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	S	S	S	S	S
Single modes	S	S	S	S	S	S	S
Truck ¹	S	S	S	S	S	S	S
For-hire truck	S	S	S	S	S	S	132
Private truck	S	S	S	S	S	S	S
Rail	S	S	S	S	S	S	9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	1
SCTG 11, NATURAL SANDS							
Total	S	S	4 931	100.0	267	100.0	S
Single modes	S	S	4 914	99.6	253	95.0	S
Truck ¹	S	S	2 545	51.6	104	38.9	S
For-hire truck	S	S	S	S	37	14.1	S
Private truck	S	S	2 156	43.7	S	S	22
Rail	5	10.7	185	3.7	74	27.9	414
Water	S	S	S	S	S	S	34
Shallow draft	S	S	S	S	S	S	34
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	356	100.0	34 467	100.0	618	100.0	15
Single modes	352	98.9	34 027	98.7	615	99.4	15
Truck ¹	348	97.7	33 286	96.6	572	92.6	15
For-hire truck	43	12.1	6 250	18.1	120	19.5	18
Private truck	302	84.8	26 389	76.6	428	69.2	14
Rail	S	S	S	S	S	S	413
Water	3	.9	693	2.0	22	3.6	36
Shallow draft	3	.9	693	2.0	22	3.6	36
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	4	1.1	440	1.3	4	.6	6
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	63	100.0	847	100.0	173	100.0	S
Single modes	58	91.6	779	92.0	156	90.5	S
Truck ¹	53	83.3	750	88.6	98	56.7	S
For-hire truck	15	24.2	S	S	S	S	395
Private truck	37	59.1	S	S	31	18.1	S
Rail	S	S	S	S	S	S	2 116
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1	1.6	S	S	S	S	784
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	643
Truck and rail	S	S	S	S	S	S	2 749
Truck and water	S	S	S	S	S	S	1 831
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	4	6.8	S	S	S	S	S
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	S	S	S	S	S	S	S
Single modes	S	S	S	S	S	S	S
Truck ¹	S	S	S	S	S	S	S
For-hire truck	S	S	S	S	S	S	440
Private truck	S	S	S	S	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	9

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 15, COAL							
Total	\$	\$	\$	\$	\$	\$	4
Single modes	—	—	—	—	—	—	—
Truck ¹	—	—	—	—	—	—	—
For-hire truck	—	—	—	—	—	—	—
Private truck	—	—	—	—	—	—	—
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	4
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	4 953	100.0	19 730	100.0	4 329	100.0	22
Single modes	4 884	98.6	19 541	99.0	4 322	99.8	22
Truck ¹	2 376	48.0	8 491	43.0	197	4.6	21
For-hire truck	120	2.4	434	2.2	15	.4	34
Private truck	2 256	45.5	8 057	40.8	182	4.2	21
Rail	—	—	—	—	—	—	—
Water	491	9.9	2 332	11.8	\$	\$	1 575
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	491	9.9	2 332	11.8	\$	\$	1 575
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	\$	\$	\$	\$	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	22
SCTG 18, FUEL OILS							
Total	2 373	100.0	13 124	100.0	2 141	100.0	15
Single modes	2 293	96.6	12 533	95.5	2 046	95.6	15
Truck ¹	787	33.2	3 551	27.1	58	2.7	11
For-hire truck	38	1.6	180	1.4	\$	\$	29
Private truck	749	31.5	3 372	25.7	53	2.5	11
Rail	\$	\$	\$	\$	\$	\$	1 499
Water	534	22.5	3 746	28.5	\$	\$	436
Shallow draft	407	17.1	3 000	22.9	137	6.4	65
Great Lakes	—	—	—	—	—	—	—
Deep draft	\$	\$	\$	\$	\$	\$	743
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	\$	\$	\$	\$	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	22

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	890	100.0	3 412	100.0	S	S	S
Single modes	864	97.1	3 400	99.7	S	S	S
Truck ¹	715	80.3	2 641	77.4	108	27.3	22
For-hire truck	S	S	S	S	S	S	76
Private truck	652	73.2	2 214	64.9	79	19.9	22
Rail	S	S	S	S	S	S	720
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	2 111
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	—	—	S	S	S	S	965
Parcel, U.S. Postal Service or courier	—	—	S	S	S	S	965
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	33
SCTG 20, BASIC CHEMICALS							
Total	1 037	100.0	2 860	100.0	2 038	100.0	89
Single modes	946	91.3	2 826	98.8	1 969	96.6	58
Truck ¹	622	60.0	1 484	51.9	190	9.3	43
For-hire truck	281	27.1	646	22.6	127	6.2	250
Private truck	342	33.0	838	29.3	63	3.1	32
Rail	242	23.3	1 150	40.2	1 689	82.9	1 481
Water	S	S	S	S	S	S	1 679
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 679
Air (includes truck and air)	S	S	S	S	S	S	284
Pipeline ²	16	1.5	132	4.6	S	S	S
Multiple modes	85	8.2	29	1.0	68	3.3	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	34	3.3	22	.8	61	3.0	2 830
Truck and water	S	S	6	.2	6	.3	540
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	657
Other and unknown modes	6	.6	5	.2	S	S	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	2 856	100.0	92	100.0	S	S	1 005
Single modes	1 906	66.7	S	S	S	S	1 182
Truck ¹	1 412	49.4	71	76.3	S	S	302
For-hire truck	S	S	S	S	S	S	615
Private truck	981	34.4	S	S	S	S	54
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	1 133
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 133
Air (includes truck and air)	S	S	S	S	S	S	1 892
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	948	33.2	13	13.7	9	14.5	759
Parcel, U.S. Postal Service or courier	936	32.8	9	10.2	6	9.2	756
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	1 018
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	12

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 22, FERTILIZERS							
Total	729	100.0	4 119	100.0	S	S	S
Single modes	719	98.5	4 087	99.2	S	S	S
Truck ¹	634	87.0	3 166	76.9	203	17.3	40
For-hire truck	170	23.3	1 173	28.5	126	10.7	S
Private truck	465	63.7	1 994	48.4	78	6.6	29
Rail	84	11.6	S	S	S	S	975
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	939
Parcel, U.S. Postal Service or courier	S	S	—	—	—	—	711
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	1 813
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	—	—	S
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	2 057	100.0	1 375	100.0	S	S	221
Single modes	1 717	83.5	1 330	96.7	S	S	227
Truck ¹	1 649	80.2	818	59.5	200	17.6	186
For-hire truck	825	40.1	618	44.9	184	16.3	581
Private truck	821	39.9	199	14.5	14	1.3	46
Rail	S	S	S	S	S	S	2 658
Water	S	S	S	S	S	S	1 871
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 871
Air (includes truck and air)	S	S	S	S	S	S	1 563
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	42	3.1	S	S	236
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	227
Truck and rail	S	S	S	S	S	S	2 606
Truck and water	S	S	1	.1	2	.2	1 780
Rail and water	S	S	S	S	S	S	1 946
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	11	.6	3	.2	—	—	S
SCTG 24, PLASTICS AND RUBBER							
Total	3 126	100.0	1 054	100.0	543	100.0	322
Single modes	2 645	84.6	863	81.9	482	88.7	211
Truck ¹	2 575	82.4	834	79.2	411	75.7	193
For-hire truck	1 407	45.0	440	41.8	352	64.8	647
Private truck	1 163	37.2	393	37.3	59	10.9	55
Rail	52	1.6	27	2.5	65	12.0	2 542
Water	S	S	2	.2	S	S	1 809
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	2	.2	S	S	1 809
Air (includes truck and air)	8	.3	1	—	1	.2	1 198
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	287	9.2	20	1.9	25	4.7	707
Parcel, U.S. Postal Service or courier	273	8.7	12	1.2	7	1.3	700
Truck and rail	S	S	S	S	S	S	2 206
Truck and water	12	.4	7	.6	16	3.0	1 565
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	194	6.2	S	S	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	3 485	100.0	59 210	100.0	3 442	100.0	44
Single modes	2 834	81.3	53 963	91.1	1 942	56.4	40
Truck ¹	2 725	78.2	52 795	89.2	1 929	56.1	41
For-hire truck	1 183	33.9	13 302	22.5	880	25.6	68
Private truck	1 518	43.6	S	S	978	28.4	27
Rail	S	S	S	S	S	S	11
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	138	4.0	634
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 522
Truck and rail	S	S	S	S	S	S	108
Truck and water	19	.5	S	S	S	S	438
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 26, WOOD PRODUCTS							
Total	5 930	100.0	15 667	100.0	8 189	100.0	273
Single modes	5 329	89.9	14 728	94.0	6 895	84.2	230
Truck ¹	4 337	73.1	11 414	72.9	2 595	31.7	187
For-hire truck	2 626	44.3	4 893	31.2	1 868	22.8	561
Private truck	1 653	27.9	S	S	714	8.7	88
Rail	941	15.9	3 237	20.7	4 098	50.0	1 192
Water	S	S	S	S	S	S	1 991
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 991
Air (includes truck and air)	S	S	S	S	S	S	2 330
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	402	6.8	579	3.7	1 203	14.7	1 263
Parcel, U.S. Postal Service or courier	5	—	S	S	S	S	732
Truck and rail	346	5.8	491	3.1	1 048	12.8	2 462
Truck and water	50	.9	87	.6	154	1.9	2 135
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	1 910
Other and unknown modes	200	3.4	360	2.3	92	1.1	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	3 238	100.0	5 494	100.0	4 113	100.0	334
Single modes	2 784	86.0	4 823	87.8	3 145	76.5	252
Truck ¹	1 805	55.7	2 896	52.7	1 270	30.9	182
For-hire truck	1 502	46.4	2 553	46.5	1 218	29.6	470
Private truck	303	9.4	344	6.3	53	1.3	S
Rail	882	27.2	1 768	32.2	1 811	44.0	1 058
Water	S	S	153	2.8	S	S	1 324
Shallow draft	S	S	S	S	4	.1	29
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 734
Air (includes truck and air)	S	S	S	S	S	S	2 957
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	427	13.2	625	11.4	965	23.5	769
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	531
Truck and rail	208	6.4	309	5.6	578	14.1	1 641
Truck and water	154	4.8	229	4.2	226	5.5	1 376
Rail and water	S	S	S	S	S	S	1 731
Other multiple modes	S	S	S	S	S	S	2 460
Other and unknown modes	28	.9	46	.8	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	2 521	100.0	2 211	100.0	878	100.0	221
Single modes	2 331	92.5	2 072	93.7	765	87.2	145
Truck ¹	2 300	91.2	2 043	92.4	712	81.1	113
For-hire truck	1 521	60.3	1 340	60.6	668	76.2	514
Private truck	778	30.9	702	31.8	43	5.0	31
Rail	S	S	S	S	S	S	2 482
Water	S	S	S	S	S	S	2 233
Shallow draft	S	S	S	S	S	S	31
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	2 560
Air (includes truck and air)	S	S	S	S	—	—	2 131
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	758
Parcel, U.S. Postal Service or courier	S	S	3	.1	S	S	703
Truck and rail	S	S	S	S	S	S	2 476
Truck and water	34	1.4	S	S	S	S	2 155
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 29, PRINTED PRODUCTS							
Total	2 594	100.0	727	100.0	191	100.0	272
Single modes	1 613	62.2	577	79.4	80	41.8	S
Truck ¹	1 544	59.5	569	78.3	70	36.3	S
For-hire truck	424	16.3	93	12.8	58	30.1	580
Private truck	1 109	42.8	472	64.9	12	6.1	16
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	1 865
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 865
Air (includes truck and air)	S	S	S	S	S	S	1 837
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	695	26.8	59	8.1	S	S	944
Parcel, U.S. Postal Service or courier	686	26.4	57	7.9	S	S	944
Truck and rail	S	S	S	S	S	S	3 257
Truck and water	S	S	S	S	S	S	2 118
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	286	11.0	91	12.5	S	S	S
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	4 601	100.0	385	100.0	382	100.0	1 147
Single modes	3 159	68.7	309	80.3	289	75.8	837
Truck ¹	3 049	66.3	286	74.2	S	S	813
For-hire truck	S	S	126	32.8	S	S	1 727
Private truck	811	17.6	158	41.1	24	6.3	100
Rail	45	1.0	19	4.9	49	12.9	2 582
Water	S	S	S	S	S	S	1 378
Shallow draft	S	S	S	S	S	S	337
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 841
Air (includes truck and air)	25	.5	1	.3	2	.5	1 787
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 343	29.2	68	17.6	87	22.7	1 471
Parcel, U.S. Postal Service or courier	1 291	28.0	53	13.8	79	20.6	1 472
Truck and rail	S	S	S	S	S	S	228
Truck and water	S	S	S	S	4	1.1	1 522
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	100	2.2	8	2.1	6	1.6	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	1 669	100.0	14 302	100.0	1 406	100.0	S
Single modes	1 556	93.2	13 986	97.8	1 203	85.6	S
Truck ¹	1 481	88.7	13 023	91.1	639	45.5	S
For-hire truck	394	23.6	2 121	14.8	395	28.1	798
Private truck	1 082	64.8	10 831	75.7	241	17.1	S
Rail	72	4.3	952	6.7	563	40.1	S
Water	S	S	S	S	S	S	441
Shallow draft	S	S	S	S	S	S	441
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	2 322
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	137	1.0	S	S	1 649
Parcel, U.S. Postal Service or courier	S	S	2	—	S	S	1 656
Truck and rail	11	.7	S	S	18	1.3	1 204
Truck and water	15	.9	S	S	S	S	1 354
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	2 664
Other and unknown modes	27	1.6	S	S	S	S	S
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	5 057	100.0	4 112	100.0	2 873	100.0	206
Single modes	4 672	92.4	3 830	93.1	2 456	85.5	144
Truck ¹	3 651	72.2	2 877	70.0	787	27.4	107
For-hire truck	1 993	39.4	1 273	31.0	699	24.3	481
Private truck	1 631	32.3	1 596	38.8	87	3.0	50
Rail	967	19.1	884	21.5	1 537	53.5	1 746
Water	41	.8	67	1.6	127	4.4	1 747
Shallow draft	S	S	S	S	S	S	282
Great Lakes	—	—	—	—	—	—	—
Deep draft	28	.5	53	1.3	122	4.2	2 084
Air (includes truck and air)	S	S	S	S	S	S	2 078
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	340	6.7	224	5.5	391	13.6	1 052
Parcel, U.S. Postal Service or courier	29	.6	2	—	2	—	969
Truck and rail	292	5.8	190	4.6	332	11.6	1 878
Truck and water	S	S	S	S	S	S	1 861
Rail and water	S	S	S	S	S	S	1 776
Other multiple modes	S	S	S	S	S	S	1 875
Other and unknown modes	46	.9	58	1.4	26	.9	S
SCTG 33, ARTICLES OF BASE METAL							
Total	3 331	100.0	1 113	100.0	406	100.0	299
Single modes	2 652	79.6	1 031	92.6	366	90.0	152
Truck ¹	2 517	75.6	975	87.6	261	64.3	134
For-hire truck	1 308	39.3	472	42.4	223	54.9	395
Private truck	1 203	36.1	502	45.1	37	9.2	47
Rail	S	S	S	S	S	S	2 258
Water	S	S	S	S	4	1.0	1 410
Shallow draft	S	S	S	S	S	S	414
Great Lakes	—	—	—	—	—	—	—
Deep draft	9	.3	S	S	S	S	1 685
Air (includes truck and air)	20	.6	1	.1	3	.7	1 975
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	482	14.5	26	2.3	21	5.3	721
Parcel, U.S. Postal Service or courier	467	14.0	19	1.7	11	2.7	720
Truck and rail	S	S	S	S	S	S	3 116
Truck and water	S	S	S	S	S	S	697
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	198	5.9	56	5.1	S	S	45

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 34, MACHINERY							
Total	3 664	100.0	444	100.0	331	100.0	394
Single modes	2 808	76.6	416	93.8	311	94.1	225
Truck ¹	2 659	72.6	409	92.2	298	90.0	183
For-hire truck	1 774	48.4	285	64.2	280	84.8	646
Private truck	867	23.7	122	27.4	17	5.1	40
Rail	S	S	S	S	S	S	529
Water	17	.5	S	S	S	S	1 942
Shallow draft	S	S	S	S	S	S	208
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	2 286
Air (includes truck and air)	132	3.6	4	1.0	9	2.8	2 009
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	734	20.0	15	3.5	11	3.3	698
Parcel, U.S. Postal Service or courier	731	19.9	15	3.4	10	3.1	697
Truck and rail	S	S	S	S	S	S	2 274
Truck and water	S	S	S	S	S	S	1 680
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	122	3.3	12	2.7	9	2.6	S
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	8 614	100.0	273	100.0	168	100.0	509
Single modes	4 753	55.2	191	70.2	106	62.8	195
Truck ¹	3 038	35.3	177	65.1	83	49.2	85
For-hire truck	1 592	18.5	54	19.6	55	32.7	545
Private truck	1 426	16.6	123	45.2	S	S	69
Rail	S	S	S	S	S	S	1 137
Water	S	S	S	S	S	S	29
Shallow draft	S	S	S	S	S	S	29
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	1 675	19.4	12	4.3	21	12.7	1 961
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 349	38.9	69	25.3	55	32.6	859
Parcel, U.S. Postal Service or courier	3 244	37.7	59	21.6	37	22.0	858
Truck and rail	S	S	S	S	S	S	2 564
Truck and water	S	S	S	S	S	S	1 301
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	511	5.9	12	4.5	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	3 301	100.0	410	100.0	352	100.0	162
Single modes	1 744	52.8	286	69.8	S	S	85
Truck ¹	1 665	50.4	274	66.9	174	49.4	72
For-hire truck	624	18.9	122	29.7	S	S	666
Private truck	1 039	31.5	152	37.1	32	9.1	35
Rail	S	S	S	S	S	S	3 131
Water	S	S	S	S	S	S	473
Shallow draft	S	S	S	S	S	S	399
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 141
Air (includes truck and air)	11	.3	1	.1	1	.3	1 576
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	204	6.2	15	3.7	15	4.4	481
Parcel, U.S. Postal Service or courier	187	5.7	11	2.6	5	1.3	481
Truck and rail	17	.5	S	S	11	3.1	2 445
Truck and water	S	S	S	S	S	S	3 097
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 353	41.0	109	26.5	135	38.5	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	37 588	100.0	148	100.0	167	100.0	1 153
Single modes	36 771	97.8	137	92.5	146	87.9	S
Truck ¹	1 648	4.4	103	69.6	110	66.1	S
For-hire truck	926	2.5	79	53.6	104	62.6	1 051
Private truck	715	1.9	24	16.0	6	3.5	S
Rail	S	S	S	S	S	S	3 140
Water	S	S	S	S	S	S	280
Shallow draft	S	S	S	S	S	S	280
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	35 122	93.4	34	22.8	36	21.4	1 795
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	742	2.0	S	S	S	S	1 627
Parcel, U.S. Postal Service or courier	742	2.0	S	S	S	S	1 627
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	75	.2	3	2.2	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	6 043	100.0	S	S	S	S	1 600
Single modes	2 695	44.6	30	49.9	14	17.9	1 486
Truck ¹	1 990	32.9	29	47.4	11	13.9	409
For-hire truck	726	12.0	9	15.3	9	11.9	817
Private truck	S	S	19	32.1	S	S	362
Rail	S	S	S	S	S	S	243
Water	S	S	S	S	S	S	2 381
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	2 381
Air (includes truck and air)	S	S	2	2.5	3	3.9	2 320
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 688
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 689
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	198
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	1 162	100.0	318	100.0	128	100.0	393
Single modes	1 103	94.9	301	94.7	117	91.5	397
Truck ¹	1 098	94.5	300	94.4	115	90.0	388
For-hire truck	380	32.7	73	22.8	103	80.7	1 168
Private truck	717	61.7	S	S	12	9.3	68
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	1 597
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 597
Air (includes truck and air)	S	S	S	S	S	S	2 234
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	17	1.4	4	1.3	7	5.6	622
Parcel, U.S. Postal Service or courier	12	1.0	1	.3	1	.4	559
Truck and rail	S	S	S	S	S	S	2 064
Truck and water	4	.3	S	S	S	S	1 947
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	42	3.6	S	S	S	S	92

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	9 665	100.0	1 812	100.0	774	100.0	1 729
Single modes	3 085	31.9	1 679	92.7	569	73.4	414
Truck ¹	2 931	30.3	1 666	91.9	537	69.3	220
For-hire truck	1 577	16.3	734	40.5	400	51.6	1 166
Private truck	1 328	13.7	921	50.9	136	17.5	71
Rail	S	S	S	S	S	S	2 621
Water	S	S	S	S	—	—	787
Shallow draft	S	S	S	S	S	S	368
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	—	—	—	—	2 013
Air (includes truck and air)	S	S	S	S	S	S	2 404
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	6 438	66.6	121	6.7	205	26.4	1 909
Parcel, U.S. Postal Service or courier	6 375	66.0	106	5.8	174	22.5	1 909
Truck and rail	S	S	S	S	S	S	2 444
Truck and water	49	.5	13	.7	27	3.5	1 740
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	142	1.5	S	S	1	.1	S
SCTG 41, WASTE AND SCRAP							
Total	522	100.0	S	S	609	100.0	S
Single modes	S	S	S	S	532	87.4	70
Truck ¹	S	S	S	S	435	71.4	68
For-hire truck	S	S	S	S	S	S	S
Private truck	14	2.7	106	2.3	8	1.2	S
Rail	35	6.7	602	13.1	93	15.3	141
Water	S	S	S	S	S	S	30
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	30
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	35	6.6	30	.7	72	11.8	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	33	6.4	29	.6	69	11.3	2 375
Truck and water	S	S	S	S	S	S	2 177
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 43, MIXED FREIGHT							
Total	3 152	100.0	1 558	100.0	189	100.0	S
Single modes	3 114	98.8	1 551	99.5	188	99.5	S
Truck ¹	3 113	98.8	1 551	99.5	187	99.0	S
For-hire truck	S	S	S	S	S	S	987
Private truck	2 921	92.7	1 503	96.4	157	83.3	92
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	929
Shallow draft	S	S	S	S	S	S	187
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 854
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	S
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	10	.3	2	.1	—	—	5

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
COMMODITY UNKNOWN							
Total	\$	\$	\$	\$	\$	\$	544
Single modes	\$	\$	\$	\$	\$	\$	183
Truck ¹	589	41.5	\$	\$	\$	\$	109
For-hire truck	\$	\$	225	8.8	\$	\$	486
Private truck	143	10.1	100	3.9	11	2.2	\$
Rail	\$	\$	\$	\$	\$	\$	780
Water	\$	\$	\$	\$	\$	\$	1 612
Shallow draft	\$	\$	\$	\$	\$	\$	336
Great Lakes	—	—	—	—	—	—	—
Deep draft	\$	\$	\$	\$	\$	\$	1 849
Air (includes truck and air)	\$	\$	\$	\$	—	—	2 230
Pipeline ²	\$	\$	\$	\$	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	1 406
Parcel, U.S. Postal Service or courier	\$	\$	—	—	—	.1	1 389
Truck and rail	\$	\$	\$	\$	\$	\$	2 410
Truck and water	\$	\$	\$	\$	\$	\$	1 631
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	1 279

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "About the Data" section for details of CFS coverage.

Note: Data exclude shipments of SCTG 16, Crude Petroleum. See the section "Industry Coverage" for additional information.

Table 7. Shipment Characteristics by State of Destination for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

State of destination	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	151 478	100.0	264 047	100.0	52 144	100.0
NEW ENGLAND STATES						
Connecticut	212	.1	S	S	S	S
Maine	S	S	22	—	70	.1
Massachusetts	700	.5	203	—	620	1.2
New Hampshire	158	.1	44	—	138	.3
Rhode Island	58	—	5	—	14	—
Vermont	80	—	11	—	34	—
MIDDLE ATLANTIC STATES						
New Jersey	1 286	.8	327	.1	973	1.9
New York	1 553	1.0	257	.1	749	1.4
Pennsylvania	1 673	1.1	276	.1	780	1.5
EAST NORTH CENTRAL STATES						
Illinois	S	S	862	.3	1 894	3.6
Indiana	594	.4	204	—	470	.9
Michigan	1 273	.8	403	.2	966	1.9
Ohio	1 386	.9	230	—	548	1.1
Wisconsin	803	.5	284	.1	563	1.1
WEST NORTH CENTRAL STATES						
Iowa	485	.3	238	—	453	.9
Kansas	561	.4	99	—	189	.4
Minnesota	1 059	.7	306	.1	528	1.0
Missouri	586	.4	202	—	428	.8
Nebraska	200	.1	S	S	153	.3
North Dakota	58	—	S	S	S	S
South Dakota	75	—	52	—	77	.1
SOUTH ATLANTIC STATES						
Delaware	76	—	S	S	S	S
District of Columbia	S	S	1	—	3	—
Florida	S	S	178	—	564	1.1
Georgia	1 189	.8	387	.1	1 111	2.1
Maryland	509	.3	87	—	251	.5
North Carolina	663	.4	127	—	368	.7
South Carolina	181	—	36	—	106	.2
Virginia	639	.4	87	—	261	.5
West Virginia	59	—	S	S	S	S
EAST SOUTH CENTRAL STATES						
Alabama	1 408	.9	245	—	663	1.3
Kentucky	492	.3	118	—	285	.5
Mississippi	S	S	34	—	95	.2
Tennessee	1 026	.7	280	.1	708	1.4
WEST SOUTH CENTRAL STATES						
Arkansas	383	.3	167	—	412	.8
Louisiana	457	.3	221	—	613	1.2
Oklahoma	320	.2	134	—	290	.6
Texas	6 799	4.5	1 588	.6	3 864	7.4
MOUNTAIN STATES						
Arizona	S	S	632	.2	975	1.9
Colorado	885	.6	559	.2	815	1.6
Idaho	2 136	1.4	2 483	.9	678	1.3
Montana	1 206	.8	882	.3	467	.9
Nevada	422	.3	266	.1	306	.6
New Mexico	220	.1	71	—	105	.2
Utah	996	.7	1 024	.4	929	1.8
Wyoming	104	—	50	—	50	.1
PACIFIC STATES						
Alaska	2 535	1.7	2 446	.9	S	S
California	14 353	9.5	9 137	3.5	10 232	19.6
Hawaii	S	S	206	—	584	1.1
Oregon	10 301	6.8	33 659	12.7	5 914	11.3
Washington	76 628	50.6	204 657	77.5	7 758	14.9

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

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Table 8. Inbound Shipment Characteristics by State of Origin for State of Destination: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

State of origin	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	159 598	100.0	269 922	100.0	85 653	100.0
NEW ENGLAND STATES						
Connecticut	506	.3	S	S	S	S
Maine	81	—	7	—	23	—
Massachusetts	1 179	.7	77	—	236	.3
New Hampshire	314	.2	12	—	37	—
Rhode Island	S	S	4	—	13	—
Vermont	142	—	17	—	50	—
MIDDLE ATLANTIC STATES						
New Jersey	1 561	1.0	195	—	572	.7
New York	1 617	1.0	242	—	691	.8
Pennsylvania	1 579	1.0	268	.1	739	.9
EAST NORTH CENTRAL STATES						
Illinois	2 212	1.4	458	.2	976	1.1
Indiana	1 064	.7	209	—	477	.6
Michigan	2 816	1.8	605	.2	1 460	1.7
Ohio	2 061	1.3	475	.2	1 181	1.4
Wisconsin	1 381	.9	460	.2	904	1.1
WEST NORTH CENTRAL STATES						
Iowa	1 079	.7	845	.3	1 708	2.0
Kansas	S	S	194	—	380	.4
Minnesota	2 517	1.6	6 489	2.4	11 530	13.5
Missouri	942	.6	391	.1	804	.9
Nebraska	1 467	.9	7 958	2.9	14 151	16.5
North Dakota	193	.1	S	S	S	S
South Dakota	1 018	.6	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	37	—	4	—	10	—
District of Columbia	—	—	—	—	—	—
Florida	952	.6	101	—	328	.4
Georgia	823	.5	405	.2	1 168	1.4
Maryland	163	.1	16	—	46	—
North Carolina	1 394	.9	220	—	629	.7
South Carolina	364	.2	132	—	415	.5
Virginia	1 044	.7	74	—	210	.2
West Virginia	239	.1	119	—	331	.4
EAST SOUTH CENTRAL STATES						
Alabama	503	.3	179	—	483	.6
Kentucky	1 023	.6	256	—	628	.7
Mississippi	407	.3	S	S	S	S
Tennessee	1 095	.7	495	.2	1 290	1.5
WEST SOUTH CENTRAL STATES						
Arkansas	450	.3	246	—	594	.7
Louisiana	364	.2	171	—	481	.6
Oklahoma	657	.4	132	—	288	.3
Texas	3 199	2.0	980	.4	2 308	2.7
MOUNTAIN STATES						
Arizona	1 595	1.0	114	—	172	.2
Colorado	1 048	.7	383	.1	569	.7
Idaho	2 035	1.3	2 431	.9	1 020	1.2
Montana	935	.6	4 114	1.5	3 457	4.0
Nevada	494	.3	271	.1	218	.3
New Mexico	110	—	S	S	S	S
Utah	1 038	.7	933	.3	833	1.0
Wyoming	131	—	S	S	S	S
PACIFIC STATES						
Alaska	878	.5	S	S	S	S
California	16 547	10.4	5 638	2.1	5 649	6.6
Hawaii	38	—	12	—	44	—
Oregon	19 606	12.3	19 018	7.0	2 831	3.3
Washington	76 628	48.0	204 657	75.8	7 758	9.1

— Represents data cell equal to zero or less than 1 unit of measure.

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Appendix A.

Comparability With the 1993 Commodity Flow Survey

The Commodity Flow Survey (CFS) restores a data program on commodity flows that the Census Bureau conducted as a part of its 5-year economic census program from 1963 through 1977. The CFS was first conducted in

1993. For the 1997 CFS, the Census Bureau incorporated improvements identified from the evaluation of previous surveys and additional research. The following table shows a comparison of the 1993 and 1997 surveys.

Item	1993	1997
1. Industry coverage	Manufacturers (minor exceptions) Mining (except mining services and oil and gas extraction) All wholesale Video tape distributors Catalog mail-order houses Auxiliaries (e.g., warehouses)	Manufacturers (minor exceptions) Mining (except mining services) All wholesale Catalog mail-order houses Auxiliaries (e.g., warehouses)
2. Commodity classification system	Standard Transportation Commodity Classification (STCC), developed by the American Association of Railroads (AAR).	Standard Classification of Transported Goods (SCTG).
3. Sample size	Approximately 200,000 establishments were selected from a universe of about 800,000 in-scope establishments on the 1992 Standard Statistical Establishment List (SSEL).	Approximately 100,000 establishments were selected from a universe of about 800,000 in-scope establishments on the 1995 Standard Statistical Establishment List (SSEL).
4. Survey methodology	Respondents took a sample of their individual outbound shipments for a 2-week period during each of the four calendar quarters of 1993. Respondents reported key characteristics for each sampled shipment.	Respondents took a sample of their individual outbound shipments for a 1-week period during each of the four calendar quarters of 1997. Respondents reported key characteristics for each sampled shipment.
5. Reported mode of transportation	Rail For-hire truck Private truck Air Inland water and/or Great Lakes Deep sea water Pipeline Parcel, U.S. Postal Service, or courier Other Unknown	Rail For-hire truck Private truck Air Shallow draft vessel Deep draft vessel Pipeline Parcel, U.S. Postal Service, or courier Other Unknown

Item	1993	1997
6. Data items requested on questionnaire	<p>For each shipment:</p> <p>Total value</p> <p>Total weight</p> <p>Major commodity (STCC)</p> <p>All modes of transportation</p> <p>Multiple origins (respondents specifically requested to report all shipment origins for the sampled establishment and report the appropriate origin for each shipment; assumed to always be the mailing address if no other origins listed).</p> <p>Destination</p> <p>Containerized (Y/N)</p> <p>Hazardous material (Y/N)</p> <p>Export (Y/N)</p> <p>If export, mode of export, foreign country, and city of destination.</p>	<p>For each shipment:</p> <p>Total value</p> <p>Total weight</p> <p>Major commodity (SCTG)</p> <p>All modes of transportation</p> <p>Single origin (assumed to be the mailing address unless the respondent provided a different physical location address).</p> <p>Destination</p> <p>Containerized (Y/N)</p> <p>Hazardous material (UN/NA codes)</p> <p>Export (Y/N)</p> <p>If export, mode of export, foreign country, and city of destination.</p>

Appendix B. Reliability of the Estimates

An estimate based on a sample survey potentially contains two types of errors—sampling and nonsampling. Sampling error occurs because characteristics differ among sampling units and because only a subset of the entire population is measured in a sample survey. Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate. The accuracy of a survey result may be affected by these two types of errors.

Sampling and nonsampling errors are often measured by the quantities, bias and variance. The bias of an estimator of an unknown population value is the difference, averaged over all possible samples of the same size and design, between the estimator and the unknown population value. Any systematic error, or inaccuracy that affects all samples of a specified design in a similar way, may bias the resulting estimates. Variance is the squared difference, averaged over all possible samples of the same size and design, between an estimator and its average value. Descriptions of sampling and nonsampling errors for the 1997 Commodity Flow Survey (CFS) are provided in the following sections.

SAMPLING ERROR

Because the estimates are based on a sample, exact agreement with the results that would be obtained from a complete enumeration of all the shipments made in 1997 from all establishments included on the CFS sampling frame is not expected. However, because probability sampling was used at each stage of selection, it is possible to estimate the sampling variability of the survey estimates. For CFS estimates, sampling variability arises from each of the three stages of sampling. (See Appendix C for a description of the sample design.)

The particular sample used in this survey is one of a large number of samples of the same size and design that could have been selected. If all possible samples had been surveyed, under the same conditions, an estimate of an unknown population value could have been obtained from each sample. The estimates obtained from these samples give rise to a distribution of estimates for the unknown population value. A statistical measure of the variability among these estimates is the standard error, which can be approximated from any one sample. The coefficient of variation (or relative standard error) of an estimate is the standard error of the estimate divided by the estimate. Measures of sampling variability, such as the standard error or coefficient of variation, are estimated from the

sample and are also subject to sampling variability. (Technically, we should refer to the estimated standard error or the estimated coefficient of variation of an estimator. However, we have omitted this detail for the sake of brevity.) It is important to note that the standard error and coefficient of variation only measure sampling variability. They do not measure any biases in the estimates. All coefficients of variation are expressed as percents. Standard errors for the corresponding percentage estimates are also provided.

An estimate of an unknown population value and its approximate standard error can be used to construct a confidence interval. A confidence interval is a range about a given estimator that has a specified probability, or confidence, of containing the unknown population value. If, for each possible sample, an estimate of an unknown population value and the estimate's approximate standard error were obtained, then:

1. For approximately 90 percent of the possible samples, the interval from 1.65 standard errors below to 1.65 standard errors above the estimate would include the unknown population value.
2. For approximately 95 percent of the possible samples, the interval from two standard errors below to two standard errors above the estimate would include the unknown population value.

NONSAMPLING ERROR

Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate and may also occur in censuses. It is often helpful to think of nonsampling error as arising from deficiencies or mistakes in the survey process. In the CFS, nonsampling error can be attributed to many sources: (1) nonresponse, (2) response errors, (3) differences in the interpretation of the questions, (4) mistakes in coding or keying the data obtained, and (5) other errors of collection, response, coverage, and processing. Although no direct measurement of the potential biases because of nonsampling error has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize its influence.

A potentially large source of bias in the estimates is due to nonresponse. Nonresponse is defined as the inability to obtain all the intended measurements or responses from all the selected establishments. Four levels of nonresponse can occur in the CFS: item, shipment, quarter (reporting week), and establishment. Item nonresponse

occurs either when a question is unanswered or the response to the question fails computer or analyst edits. Item nonresponse is corrected by imputation. (Imputation is the procedure by which a missing value is replaced by a predicted value obtained from an appropriate model.) Shipment, quarter, and establishment nonresponse are used to describe the inability to obtain sufficient information about a sampled shipment, quarter, or establishment, respectively, that prevents it from contributing to tabulations. Shipment and quarter nonresponse are corrected during the estimation procedure by reweighting. Reweighting allocates characteristics to the nonrespondents in proportion to the characteristics observed for the respondents. The amount of bias introduced by this nonresponse adjustment procedure depends on the extent to which the nonrespondents differ, characteristically, from the respondents. Establishment nonresponse is corrected during the estimation procedure by the SIC-level adjustment weight. (See Appendix C for a description of the estimation procedure.) In most cases of establishment nonresponse, none of the four questionnaires have been

returned to the Census Bureau, after several attempts to elicit a response. Approximately 67 percent of the sampled establishments provided at least one quarter of data that contributed to tabulations.

Some possible sources of bias that are attributed to respondent-conducted sampling include misunderstanding the definition of a shipment, constructing an incomplete frame of shipments from which to sample, ordering the shipment sampling frame by selected shipment characteristics, and selecting shipment records by a method other than the one specified in the questionnaire's instructions. We often contacted respondents who reported shipments having atypically large value or weight when compared to the rest of their reported shipments. Upon contact, if we are able to collect information on all of a given respondent's large shipments made either for a particular reporting week or for the entire quarter, then we identify these large shipments as certainty shipments. (See Appendix C for a description of how certainty shipments are used in the estimation process.)

Table B–1a. Measures of Reliability for Shipment Characteristics by Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	8.9	—	7.9	—	5.1	—	17.9
Single modes	11.5	2.6	9.8	3.4	4.4	1.6	14.4
Truck	3.3	3.9	13.2	4.8	4.6	2.7	14.8
For-hire truck	5.9	1.8	9.7	2.7	5.9	2.3	14.3
Private truck	4.3	2.4	20.0	4.9	7.7	.9	7.2
Rail	7.7	.4	14.1	1.0	13.7	4.0	10.9
Water	20.0	.7	22.3	1.9	29.2	3.7	11.2
Shallow draft	24.1	.3	29.3	1.5	40.2	2.1	13.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	29.8	.6	34.0	1.4	40.4	3.5	7.2
Air (includes truck and air)	38.3	6.3	22.2	—	23.1	—	4.0
Pipeline	31.9	.9	33.2	1.8	S	S	S
Multiple modes	11.8	1.8	15.2	.3	10.1	.7	10.9
Parcel, U.S. Postal Service or courier	13.5	1.8	11.5	—	16.2	.2	11.0
Truck and rail	10.3	.2	26.0	.1	17.6	.8	10.1
Truck and water	15.0	—	35.0	.3	15.7	.5	8.5
Rail and water	S	S	S	S	S	S	26.2
Other multiple modes	S	S	S	S	S	S	28.8
Other and unknown modes	16.0	1.0	28.4	3.5	48.6	1.9	35.3

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B–1b. Measures of Reliability for Shipment Characteristics by Mode of Transportation for State of Origin: 1997 and 1993

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Value			Tons			Ton-miles			Average miles per shipment		
	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change	Coefficient of variation		Standard error of percent change
	1997	1993		1997	1993		1997	1993		1997	1993	
All modes	8.9	6.7	13.7	7.9	7.6	11.2	5.1	11.8	12.9	17.9	5.4	29.7
Single modes	11.5	6.3	16.9	9.8	8.5	12.6	4.4	13.8	14.6	14.4	9.0	12.2
Truck	3.3	7.9	7.7	13.2	6.8	13.3	4.6	10.4	10.0	14.8	6.8	13.4
For-hire truck	5.9	15.4	13.1	9.7	7.4	8.4	5.9	13.5	12.0	14.3	10.4	21.4
Private truck	4.3	8.2	9.3	20.0	13.0	24.9	7.7	6.7	11.3	7.2	9.7	11.1
Rail	7.7	11.9	14.7	14.1	23.1	25.2	13.7	11.1	25.6	10.9	33.4	53.5
Water	20.0	14.6	37.9	22.3	34.7	53.5	29.2	48.1	50.6	11.2	7.5	9.5
Shallow draft	24.1	16.8	36.7	29.3	41.6	50.3	40.2	30.5	99.8	13.8	48.5	125.2
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	29.8	21.8	68.7	34.0	S	S	40.4	S	S	7.2	4.5	6.4
Air (includes truck and air)	38.3	39.3	342.7	22.2	36.5	42.5	23.1	22.2	42.5	4.0	9.8	12.9
Pipeline	31.9	31.8	104.2	33.2	31.7	94.4	S	S	S	S	S	S
Multiple modes	11.8	9.0	26.5	15.2	21.5	45.1	10.1	10.1	24.0	10.9	3.9	20.9
Parcel, U.S. Postal Service or courier	13.5	10.3	30.3	11.5	9.5	20.7	16.2	8.8	37.7	11.0	3.9	21.2
Truck and rail	10.3	20.1	76.2	26.0	18.9	85.7	17.6	20.6	57.5	10.1	10.5	15.5
Truck and water	15.0	18.6	22.7	35.0	35.8	65.8	15.7	23.0	35.0	8.5	8.6	13.2
Rail and water	S	S	S	S	S	S	S	S	S	26.2	29.9	26.2
Other multiple modes	S	48.2	S	S	S	S	S	S	S	28.8	30.1	15.4
Other and unknown modes ...	16.0	23.9	14.5	28.4	19.9	49.9	48.6	S	S	35.3	36.1	23.5

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-1c. **Standard Error of Percentage for Shipment Characteristics by Mode of Transportation for State of Origin: Percent of Total for 1997 and 1993**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	—	—	—	—	—	—
Single modes	2.6	2.9	3.4	1.9	1.6	4.1
Truck	3.9	3.3	4.8	3.0	2.7	4.5
For-hire truck	1.8	2.9	2.7	3.5	2.3	4.1
Private truck	2.4	3.2	4.9	3.7	.9	1.1
Rail .....	.4	.4	1.0	1.1	4.0	3.3
Water .....	.7	.4	1.9	2.0	3.7	4.5
Shallow draft .....	.3	.2	1.5	1.5	2.1	.8
Great Lakes	—	—	—	—	—	—
Deep draft .....	.6	.3	1.4	S	3.5	S
Air (includes truck and air)	6.3	2.0	—	—	—	—
Pipeline .....	.9	.4	1.8	.9	S	S
Multiple modes	1.8	.7	.3	.2	.7	.7
Parcel, U.S. Postal Service or courier	1.8	.7	—	—	.2	—
Truck and rail .....	.2	—	.1	—	.8	.6
Truck and water	—	.1	.3	.1	.5	.4
Rail and water	S	S	S	S	S	S
Other multiple modes	S	—	S	S	S	S
Other and unknown modes	1.0	2.7	3.5	1.9	1.9	S

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-2. **Measures of Reliability for Shipment Characteristics by Total Modal Activity for the State of Origin: 1997**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	
Total	5.1	—	18.1
Truck	4.7	2.8	14.7
Rail	11.5	3.9	9.7
Shallow draft	35.8	2.0	11.1
Great Lakes	—	—	—
Deep draft	35.3	3.5	3.7
Air	23.3	—	4.3
Parcel, U.S. Postal Service or courier	16.2	.2	11.0
Pipeline	S	S	S
Other and unknown modes	48.6	1.9	35.3

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-3. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
All modes	8.9	—	7.9	—	5.1	—
Less than 50 miles	17.4	3.3	12.6	3.2	9.1	.9
50 to 99 miles	11.3	1.0	21.1	1.7	17.4	.8
100 to 249 miles	6.4	.8	12.3	2.0	11.9	1.6
250 to 499 miles	8.9	.3	34.7	1.1	32.1	2.1
500 to 749 miles	8.0	.5	18.3	.3	20.8	1.4
750 to 999 miles	26.4	1.3	7.5	.2	7.3	.7
1,000 to 1,499 miles	20.3	1.4	27.4	.7	27.4	4.3
1,500 to 1,999 miles	15.3	1.8	8.8	.3	9.1	2.0
2,000 miles or more	20.6	1.9	8.6	.1	8.2	1.3
Single modes	11.5	—	9.8	—	4.4	—
Less than 50 miles	20.8	3.5	16.5	3.8	10.5	1.0
50 to 99 miles	13.3	1.4	22.0	2.1	18.5	.9
100 to 249 miles	6.4	1.1	12.4	1.8	12.0	1.6
250 to 499 miles	11.9	.4	35.0	1.6	32.2	2.4
500 to 749 miles	9.2	.6	18.9	.4	21.4	1.6
750 to 999 miles	33.5	1.5	8.8	.2	8.5	.8
1,000 to 1,499 miles	27.5	1.7	28.5	.6	27.4	4.2
1,500 to 1,999 miles	20.1	2.1	9.7	.3	10.0	2.0
2,000 miles or more	23.3	1.8	9.5	.1	9.1	1.3
Truck	3.3	—	13.2	—	4.6	—
Less than 50 miles	3.8	1.8	17.1	2.2	10.7	1.8
50 to 99 miles	7.7	.5	14.6	1.0	14.0	.9
100 to 249 miles	6.8	.6	7.0	.9	6.6	.8
250 to 499 miles	4.8	.2	9.9	.1	8.5	.4
500 to 749 miles	10.9	.5	11.9	.2	11.7	.9
750 to 999 miles	10.9	.5	7.8	.2	7.6	.8
1,000 to 1,499 miles	9.6	.3	5.9	—	6.0	.5
1,500 to 1,999 miles	15.2	.7	12.4	.2	12.6	1.5
2,000 miles or more	11.7	.6	13.7	.2	13.5	2.0
For-hire truck	5.9	—	9.7	—	5.9	—
Less than 50 miles	5.1	1.8	14.1	2.8	20.6	.9
50 to 99 miles	9.6	.9	18.0	1.5	19.4	.8
100 to 249 miles	7.7	.6	7.7	1.3	7.2	.9
250 to 499 miles	5.8	.3	12.7	.5	11.0	.7
500 to 749 miles	11.6	.8	12.3	.5	12.1	1.2
750 to 999 miles	12.1	.8	6.9	.5	6.6	.8
1,000 to 1,499 miles	10.0	.5	6.6	.2	6.5	.9
1,500 to 1,999 miles	16.4	1.2	13.6	.4	13.8	1.4
2,000 miles or more	15.5	1.3	13.3	.5	13.1	2.2
Private truck	4.3	—	20.0	—	7.7	—
Less than 50 miles	4.6	.8	22.6	1.6	14.1	4.1
50 to 99 miles	8.4	.7	26.1	1.1	23.0	2.0
100 to 249 miles	8.8	.9	13.3	.9	12.2	2.2
250 to 499 miles	12.6	.2	16.5	.1	16.8	1.0
500 to 749 miles	15.4	.3	18.3	—	18.4	.6
750 to 999 miles	18.4	.1	22.9	—	24.6	.8
1,000 to 1,499 miles	18.6	.2	21.8	—	23.5	1.0
1,500 to 1,999 miles	20.5	.2	31.3	—	31.6	2.9
2,000 miles or more	28.8	.4	24.3	—	23.9	2.0
Rail	7.7	—	14.1	—	13.7	—
Less than 50 miles	32.2	2.5	39.9	6.4	35.1	.2
50 to 99 miles	31.4	.2	17.3	.2	15.6	—
100 to 249 miles	15.0	1.9	19.8	3.7	19.8	.8
250 to 499 miles	47.6	1.8	S	S	S	S
500 to 749 miles	11.7	1.0	42.0	3.6	43.2	3.3
750 to 999 miles	15.4	1.7	12.2	1.4	12.1	1.4
1,000 to 1,499 miles	17.2	1.5	16.8	1.0	15.4	1.7
1,500 to 1,999 miles	9.4	1.8	17.3	2.2	17.2	2.4
2,000 miles or more	16.9	1.7	16.1	1.2	15.5	2.3
Water	20.0	—	22.3	—	29.2	—
Less than 50 miles	33.6	7.4	26.8	9.1	22.6	1.8
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	47.8	6.3	48.2	9.6	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	48.2	.7	S	S	S	S
750 to 999 miles	41.3	4.5	S	S	S	S
1,000 to 1,499 miles	S	S	46.2	5.7	45.6	13.4
1,500 to 1,999 miles	48.4	1.6	S	S	S	S
2,000 miles or more	45.7	.3	S	S	S	S
Shallow draft	24.1	—	29.3	—	40.2	—
Less than 50 miles	32.9	9.6	28.7	12.8	24.4	12.8
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	47.8	7.3	48.2	9.5	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

Table B-3. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Single modes—Con.						
Great Lakes	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	29.8	—	34.0	—	40.4	—
Less than 50 miles	S	S	S	S	39.2	.5
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	46.2	14.7	45.6	16.0
1,500 to 1,999 miles	48.4	6.0	S	S	S	S
2,000 miles or more	45.7	1.6	S	S	S	S
Air (includes truck and air)	38.3	—	22.2	—	23.1	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	38.7	2.3	34.5	1.3	37.8	.2
250 to 499 miles	47.4	.6	S	S	S	S
500 to 749 miles	32.6	3.5	28.9	1.3	27.1	.7
750 to 999 miles	S	S	29.5	2.4	29.9	2.4
1,000 to 1,499 miles	S	S	37.1	4.3	39.1	3.9
1,500 to 1,999 miles	34.9	9.0	19.8	3.4	20.6	4.8
2,000 miles or more	46.3	7.2	27.6	5.4	29.9	6.4
Pipeline	31.9	—	33.2	—	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	28.9	15.4	42.3	14.9	S	S
250 to 499 miles	—	—	—	—	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	11.8	—	15.2	—	10.1	—
Less than 50 miles	12.7	1.8	S	S	S	S
50 to 99 miles	21.7	1.0	41.6	1.4	45.4	.4
100 to 249 miles	10.7	1.3	S	S	S	S
250 to 499 miles	24.6	.7	S	S	S	S
500 to 749 miles	13.3	1.1	41.4	1.6	44.2	.9
750 to 999 miles	20.1	1.3	7.7	1.9	7.2	1.3
1,000 to 1,499 miles	16.5	.8	23.1	2.5	21.3	1.8
1,500 to 1,999 miles	18.8	1.4	16.4	3.2	16.7	3.3
2,000 miles or more	19.9	2.6	17.5	3.3	18.1	5.0
Parcel, U.S. Postal Service or courier	13.5	—	11.5	—	16.2	—
Less than 50 miles	12.8	2.1	13.2	2.5	19.2	.2
50 to 99 miles	23.3	1.2	18.4	1.6	16.8	.3
100 to 249 miles	11.8	1.3	23.2	2.3	24.4	.6
250 to 499 miles	24.8	.8	20.9	.9	21.4	.3
500 to 749 miles	15.0	1.3	14.0	1.0	13.5	1.1
750 to 999 miles	25.9	1.4	23.0	.7	24.8	.8
1,000 to 1,499 miles	19.0	1.0	13.9	1.0	14.3	1.3
1,500 to 1,999 miles	22.3	1.6	17.4	1.1	17.5	1.7
2,000 miles or more	21.6	2.6	22.1	3.6	22.5	4.2
Truck and rail	10.3	—	26.0	—	17.6	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	38.6	.9	S	S	S	S
100 to 249 miles	43.5	4.6	37.8	4.5	46.9	1.6
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	35.7	.5	S	S	S	S
750 to 999 miles	25.2	4.3	17.4	4.5	17.2	3.7
1,000 to 1,499 miles	30.9	1.8	S	S	S	S
1,500 to 1,999 miles	16.8	3.9	22.5	4.4	22.3	4.1
2,000 miles or more	26.5	7.1	22.3	6.1	22.8	7.2
Truck and water	15.0	—	35.0	—	15.7	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	49.0	4.7	S	S	S	S
750 to 999 miles	31.5	2.8	45.5	2.9	47.9	2.3
1,000 to 1,499 miles	13.2	4.9	15.0	5.3	14.4	5.5
1,500 to 1,999 miles	18.5	2.4	22.7	3.8	25.4	4.0
2,000 miles or more	39.2	3.9	40.3	4.4	40.0	4.9

See footnotes at end of table.

Table B-3. **Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Multiple modes—Con.						
Rail and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other and unknown modes	16.0	—	28.4	—	48.6	—
Less than 50 miles	23.1	7.5	33.7	13.1	45.9	8.8
50 to 99 miles	26.3	1.7	20.0	2.0	21.5	2.8
100 to 249 miles	25.0	1.8	48.4	8.9	47.8	7.2
250 to 499 miles	26.7	.4	45.9	.1	42.1	.9
500 to 749 miles	41.8	1.3	S	S	S	S
750 to 999 miles	31.3	.7	41.4	.3	41.1	2.4
1,000 to 1,499 miles	28.0	1.7	S	S	S	S
1,500 to 1,999 miles	34.5	4.2	S	S	S	S
2,000 miles or more	47.0	1.6	34.3	.1	33.6	4.0

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	8.9	—	7.9	—	5.1	—	17.9
Less than 50 lb	7.8	1.3	7.0	—	20.1	.1	16.5
50 to 99 lb	12.3	.5	14.9	—	14.8	—	12.4
100 to 499 lb	8.3	1.0	11.9	.1	9.4	—	16.5
500 to 749 lb	9.1	.2	15.6	—	13.2	—	14.8
750 to 999 lb	7.7	.2	9.0	—	14.5	—	16.3
1,000 to 9,999 lb	6.6	1.1	8.7	.5	8.0	.5	7.4
10,000 to 49,999 lb	6.5	1.2	7.5	1.7	6.2	2.2	10.9
50,000 to 99,999 lb	16.9	1.0	25.3	5.1	6.9	1.0	14.0
100,000 lb or more	23.8	3.9	14.0	4.4	10.5	3.2	9.3
Single modes	11.5	—	9.8	—	4.4	—	14.4
Less than 50 lb	7.5	.5	15.5	—	10.8	—	27.7
50 to 99 lb	5.0	.2	19.1	—	22.0	—	23.6
100 to 499 lb	6.6	1.1	13.5	.1	7.5	—	12.1
500 to 749 lb	11.0	.3	16.3	—	16.4	—	18.3
750 to 999 lb	5.9	.2	9.8	—	9.9	—	14.3
1,000 to 9,999 lb	6.5	1.6	8.2	.5	10.3	.6	10.4
10,000 to 49,999 lb	6.4	1.9	8.0	2.0	6.0	2.0	11.9
50,000 to 99,999 lb	17.3	1.0	25.6	4.7	7.0	1.1	13.2
100,000 lb or more	27.0	4.5	11.4	3.2	9.2	2.8	10.0
Truck	3.3	—	13.2	—	4.6	—	14.8
Less than 50 lb	7.8	.4	16.0	—	18.7	—	26.6
50 to 99 lb	6.0	.2	19.8	—	22.1	—	25.1
100 to 499 lb	8.0	.9	13.6	.1	8.2	.1	12.8
500 to 749 lb	9.2	.3	16.1	.1	17.4	—	21.5
750 to 999 lb	5.5	.1	9.8	—	10.3	—	14.6
1,000 to 9,999 lb	6.8	1.1	8.2	.7	10.8	.9	10.9
10,000 to 49,999 lb	3.2	1.1	8.0	3.7	6.3	2.2	11.8
50,000 to 99,999 lb	6.3	.6	25.5	4.5	7.9	1.7	11.9
100,000 lb or more	21.3	.7	19.1	1.3	23.6	1.6	20.3
For-hire truck	5.9	—	9.7	—	5.9	—	14.3
Less than 50 lb	11.5	.2	31.7	—	27.3	—	23.5
50 to 99 lb	18.3	.2	17.7	—	29.2	—	20.2
100 to 499 lb	9.4	.8	11.0	—	10.6	.1	11.2
500 to 749 lb	23.3	.6	15.8	—	23.1	.1	9.3
750 to 999 lb	15.3	.4	9.6	—	16.0	.1	10.9
1,000 to 9,999 lb	12.4	1.7	12.1	.7	14.3	1.1	11.9
10,000 to 49,999 lb	3.8	1.8	8.6	2.0	6.8	2.1	11.5
50,000 to 99,999 lb	10.1	1.1	15.8	2.6	11.8	1.5	6.7
100,000 lb or more	15.9	.6	16.2	1.6	27.6	1.9	25.5
Private truck	4.3	—	20.0	—	7.7	—	7.2
Less than 50 lb	8.9	.7	14.4	—	15.8	—	12.5
50 to 99 lb	7.0	.3	20.4	—	21.2	—	8.0
100 to 499 lb	9.7	1.2	15.0	.2	13.4	.2	7.3
500 to 749 lb	5.7	.2	18.6	.2	12.8	.1	16.6
750 to 999 lb	9.6	.2	12.2	—	15.1	.1	6.8
1,000 to 9,999 lb	6.8	1.1	8.9	1.2	6.3	1.3	7.5
10,000 to 49,999 lb	6.5	1.7	12.9	5.2	13.8	4.4	21.9
50,000 to 99,999 lb	9.7	1.1	36.7	6.2	16.6	4.3	15.8
100,000 lb or more	42.8	1.1	28.3	1.2	27.7	1.2	40.6
Rail	7.7	—	14.1	—	13.7	—	10.9
Less than 50 lb	S	S	S	S	S	S	34.2
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	41.7	—	38.2
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	S	S	S	S	36.7
1,000 to 9,999 lb	47.6	.1	S	S	S	S	20.8
10,000 to 49,999 lb	12.9	1.0	16.4	.6	17.1	.8	9.6
50,000 to 99,999 lb	24.3	1.6	40.5	4.4	20.5	1.2	S
100,000 lb or more	8.1	1.3	16.3	4.3	14.5	1.3	5.4
Water	20.0	—	22.3	—	29.2	—	11.2
Less than 50 lb	S	S	S	S	S	S	26.9
50 to 99 lb	S	S	S	S	45.9	—	48.4
100 to 499 lb	S	S	S	S	S	S	13.8
500 to 749 lb	S	S	S	S	S	S	S
750 to 999 lb	39.7	.3	46.1	.1	S	S	25.5
1,000 to 9,999 lb	45.7	3.7	34.7	.8	39.1	.5	19.6
10,000 to 49,999 lb	24.5	1.8	S	S	28.5	4.9	34.8
50,000 to 99,999 lb	35.3	1.1	S	S	48.3	3.5	31.6
100,000 lb or more	22.7	12.0	22.3	1.6	30.5	9.1	19.4
Shallow draft	24.1	—	29.3	—	40.2	—	13.8
Less than 50 lb	S	S	S	S	S	S	30.5
50 to 99 lb	S	S	S	S	S	S	28.1
100 to 499 lb	S	S	S	S	S	S	24.5
500 to 749 lb	S	S	S	S	S	S	30.3
750 to 999 lb	S	S	S	S	S	S	36.4
1,000 to 9,999 lb	S	S	S	S	S	S	29.9
10,000 to 49,999 lb	S	S	S	S	S	S	30.9
50,000 to 99,999 lb	S	S	S	S	S	S	31.6
100,000 lb or more	26.9	11.1	29.4	.9	40.4	1.4	21.5

See footnote at end of table.

Table B-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Single modes—Con.							
Great Lakes	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	29.8	—	34.0	—	40.4	—	7.2
Less than 50 lb	S	S	S	S	S	S	28.3
50 to 99 lb	S	S	S	S	S	S	25.9
100 to 499 lb	S	S	S	S	S	S	12.2
500 to 749 lb	42.7	.1	32.7	—	35.9	—	21.7
750 to 999 lb	S	S	S	S	S	S	25.9
1,000 to 9,999 lb	44.5	4.2	32.7	.9	42.4	.7	16.4
10,000 to 49,999 lb	24.9	6.9	S	S	29.4	9.5	32.6
50,000 to 99,999 lb	43.2	.6	S	S	48.3	4.8	31.8
100,000 lb or more	33.8	14.7	35.1	15.3	43.5	16.4	21.4
Air (includes truck and air)	38.3	—	22.2	—	23.1	—	4.0
Less than 50 lb	25.6	4.2	27.5	2.9	31.1	3.5	3.7
50 to 99 lb	19.8	2.4	42.9	3.2	S	S	8.6
100 to 499 lb	31.4	10.3	22.2	6.3	24.9	5.9	6.2
500 to 749 lb	S	S	49.5	2.5	47.4	2.3	6.0
750 to 999 lb	S	S	35.6	1.1	37.4	1.3	14.2
1,000 to 9,999 lb	32.8	.7	21.1	4.2	16.2	3.8	11.3
10,000 to 49,999 lb	S	S	44.1	5.6	S	S	25.8
50,000 to 99,999 lb	37.2	4.1	38.1	2.4	S	S	23.7
100,000 lb or more	42.7	14.8	44.2	6.4	30.3	5.1	41.7
Pipeline	31.9	—	33.2	—	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	31.9	.4	33.3	.2	S	S	S
Multiple modes	11.8	—	15.2	—	10.1	—	10.9
Less than 50 lb	12.9	3.4	13.5	1.1	24.0	2.2	11.5
50 to 99 lb	21.6	1.7	14.4	.4	16.4	.4	10.2
100 to 499 lb	19.9	1.9	14.6	.9	21.5	.9	12.2
500 to 749 lb	29.0	.5	20.4	.2	20.2	.2	14.1
750 to 999 lb	38.2	.6	28.0	.2	46.1	.3	16.0
1,000 to 9,999 lb	12.2	.2	16.4	.5	20.6	.7	8.2
10,000 to 49,999 lb	12.4	1.1	10.8	5.9	12.5	5.2	7.2
50,000 to 99,999 lb	28.4	.4	S	S	30.4	3.3	S
100,000 lb or more	20.7	.8	29.2	7.8	26.8	5.8	12.0
Parcel, U.S. Postal Service or courier	13.5	—	11.5	—	16.2	—	11.0
Less than 50 lb	12.9	3.6	13.5	2.6	24.0	5.1	11.5
50 to 99 lb	21.6	1.8	14.5	1.8	16.6	2.3	10.2
100 to 499 lb	20.0	2.2	16.0	3.2	23.7	4.3	12.6
500 to 749 lb	29.9	.6	21.2	.8	24.2	.8	14.8
750 to 999 lb	39.9	.5	31.7	1.0	S	S	19.4
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	10.3	—	26.0	—	17.6	—	10.1
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	48.3	—	S	S	20.3
500 to 749 lb	S	S	S	S	S	S	S
750 to 999 lb	S	S	S	S	S	S	31.6
1,000 to 9,999 lb	27.2	.4	22.3	—	19.6	—	17.3
10,000 to 49,999 lb	16.1	8.3	13.0	12.0	16.3	11.4	9.7
50,000 to 99,999 lb	34.3	2.5	30.3	2.0	36.5	1.7	17.9
100,000 lb or more	30.2	7.7	44.9	11.9	36.4	10.4	15.6
Truck and water	15.0	—	35.0	—	15.7	—	8.5
Less than 50 lb	S	S	33.1	—	34.4	—	24.9
50 to 99 lb	S	S	S	S	S	S	25.3
100 to 499 lb	23.0	1.2	16.8	.2	16.6	.1	9.1
500 to 749 lb	42.8	.6	39.8	.2	33.4	.1	20.3
750 to 999 lb	S	S	43.5	.4	S	S	18.1
1,000 to 9,999 lb	16.9	5.2	17.8	2.2	21.8	2.9	8.7
10,000 to 49,999 lb	25.8	6.4	17.4	10.8	18.9	8.2	10.3
50,000 to 99,999 lb	S	S	S	S	48.0	6.5	S
100,000 lb or more	38.5	3.1	S	S	S	S	46.7

See footnote at end of table.

Table B-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	S	S	S	S	S	S	26.2
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	S	S	S	S	S	S	29.8
100,000 lb or more	S	S	48.6	7.1	S	S	26.8
Other multiple modes	S	S	S	S	S	S	28.8
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	S	S	S	S	S	S	30.0
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	31.6
Other and unknown modes	16.0	—	28.4	—	48.6	—	35.3
Less than 50 lb	14.8	2.1	12.0	—	27.1	—	28.8
50 to 99 lb	39.2	.6	21.5	—	29.5	—	S
100 to 499 lb	18.9	1.0	16.0	.2	40.1	.2	S
500 to 749 lb	25.1	.3	28.3	—	39.5	—	S
750 to 999 lb	40.2	.1	16.6	—	41.8	.2	35.3
1,000 to 9,999 lb	38.4	4.0	34.8	.9	44.8	6.5	24.1
10,000 to 49,999 lb	25.1	5.6	S	S	26.2	9.1	45.7
50,000 to 99,999 lb	37.2	2.3	25.5	5.5	29.2	3.3	S
100,000 lb or more	26.9	7.7	29.6	10.3	S	S	S

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B–5. Measures of Reliability for Shipment Characteristics by Two-Digit Commodity for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code	Commodity description	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
		Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
	All commodities	8.9	—	7.9	—	5.1	—	17.9
01	Live animals and live fish	S	S	S	S	S	S	31.6
02	Cereal grains	26.5	1.1	28.4	3.6	28.6	1.9	33.7
03	Other agricultural products	21.7	.5	21.7	.5	21.9	1.3	S
04	Animal feed and products of animal origin, n.e.c.	22.9	.1	15.0	.2	19.2	.2	30.8
05	Meat, fish, seafood, and their preparations	16.4	.8	15.5	.1	27.5	.6	S
06	Milled grain products and preparations, and bakery products	20.9	.2	37.4	.4	40.3	1.0	33.7
07	Other prepared foodstuffs and fats and oils	10.5	.6	7.4	.2	10.4	.8	19.4
08	Alcoholic beverages	14.7	.2	12.7	—	32.6	.3	27.8
09	Tobacco products	29.0	—	39.0	—	41.9	—	15.3
10	Monumental or building stone	S	S	S	S	S	S	S
11	Natural sands	S	S	49.4	.7	41.6	.2	S
12	Gravel and crushed stone	31.3	—	17.8	2.5	16.5	.2	9.4
13	Nonmetallic minerals n.e.c.	24.4	—	40.4	.1	32.9	.1	S
14	Metallic ores and concentrates	S	S	S	S	S	S	S
15	Coal	S	S	S	S	S	S	27.9
17	Gasoline and aviation turbine fuel	21.6	1.0	22.5	1.4	36.9	2.5	16.1
18	Fuel oils	31.2	.5	38.0	1.8	43.5	2.1	32.4
19	Coal and petroleum products, n.e.c.	43.6	.3	42.0	.5	S	S	S
20	Basic chemicals	16.0	.2	13.0	.1	15.9	.6	23.2
21	Pharmaceutical products	30.7	.7	46.1	—	S	S	22.5
22	Fertilizers	24.6	—	31.7	.5	S	S	S
23	Chemical products and preparations, n.e.c.	32.8	.7	33.6	.2	S	S	17.4
24	Plastics and rubber	8.4	.2	24.1	.1	20.6	.2	12.1
25	Logs and other wood in the rough	16.0	.5	37.6	5.2	32.0	1.8	18.4
26	Wood products	7.2	.3	24.8	1.4	11.8	1.6	21.8
27	Pulp, newsprint, paper, and paperboard	13.7	.3	13.9	.5	11.9	1.1	42.1
28	Paper or paperboard articles	11.9	.2	10.9	.1	21.3	.4	30.3
29	Printed products	12.6	.3	15.8	—	30.0	—	43.6
30	Textiles, leather, and articles of textiles or leather	31.4	.9	23.1	—	35.4	.3	12.6
31	Nonmetallic mineral products	15.5	.3	16.2	1.0	16.4	.5	S
32	Base metal in primary or semifinished forms and in finished basic shapes	9.5	.5	11.5	.2	12.2	.7	11.2
33	Articles of base metal	6.0	.1	10.6	—	18.6	.1	37.5
34	Machinery	9.9	.3	22.8	—	23.6	.1	16.9
35	Electronic and other electrical equipment and components and office equipment	13.2	.8	12.3	—	24.2	—	12.8
36	Motorized and other vehicles (including parts)	14.4	.3	17.6	—	31.8	.2	43.0
37	Transportation equipment, n.e.c.	39.0	6.3	17.7	—	16.1	—	14.4
38	Precision instruments and apparatus	40.5	1.5	S	S	S	S	11.7
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	22.8	.2	47.3	—	20.9	—	31.5
40	Miscellaneous manufactured products	25.0	1.8	28.3	.3	26.8	.4	12.5
41	Waste and scrap	46.3	—	S	S	33.5	.3	S
43	Mixed freight	25.4	.6	28.6	.2	25.9	—	S
—	Commodity unknown	S	S	S	S	S	S	29.1

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-6. Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
ALL COMMODITIES							
Total	8.9	—	7.9	—	5.1	—	17.9
Single modes	11.5	2.6	9.8	3.4	4.4	1.6	14.4
Truck	3.3	3.9	13.2	4.8	4.6	2.7	14.8
For-hire truck	5.9	1.8	9.7	2.7	5.9	2.3	14.3
Private truck	4.3	2.4	20.0	4.9	7.7	.9	7.2
Rail	7.7	.4	14.1	1.0	13.7	4.0	10.9
Water	20.0	.7	22.3	1.9	29.2	3.7	11.2
Shallow draft	24.1	.3	29.3	1.5	40.2	2.1	13.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	29.8	.6	34.0	1.4	40.4	3.5	7.2
Air (includes truck and air)	38.3	6.3	22.2	—	23.1	—	4.0
Pipeline	31.9	.9	33.2	1.8	S	S	S
Multiple modes	11.8	1.8	15.2	.3	10.1	.7	10.9
Parcel, U.S. Postal Service or courier	13.5	1.8	11.5	—	16.2	.2	11.0
Truck and rail	10.3	.2	26.0	.1	17.6	.8	10.1
Truck and water	15.0	—	35.0	.3	15.7	.5	8.5
Rail and water	S	S	S	S	S	S	26.2
Other multiple modes	S	S	S	S	S	S	28.8
Other and unknown modes	16.0	1.0	28.4	3.5	48.6	1.9	35.3
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	S	S	31.6
Single modes	S	S	S	S	S	S	31.6
Truck	S	S	S	S	S	S	31.6
For-hire truck	—	—	—	—	—	—	—
Private truck	S	S	S	S	S	S	31.6
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 02, CEREAL GRAINS							
Total	26.5	—	28.4	—	28.6	—	33.7
Single modes	25.2	11.3	28.1	11.5	34.8	9.4	42.8
Truck	38.4	5.1	37.2	5.4	42.3	4.9	S
For-hire truck	45.8	3.8	45.1	4.3	46.4	4.8	37.9
Private truck	42.5	3.4	43.4	3.4	33.2	.5	20.5
Rail	37.2	4.3	36.6	4.2	41.0	8.8	21.8
Water	34.0	10.8	37.2	11.0	45.0	13.4	15.6
Shallow draft	40.6	8.7	42.6	9.0	45.1	15.1	15.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	27.9
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	30.0
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	29.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	38.7	11.6	38.9	11.9	S	S	33.1

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	21.7	—	21.7	—	21.9	—	S
Single modes	24.0	5.0	23.3	8.5	22.1	1.4	S
Truck	27.7	8.8	26.4	11.9	25.7	5.4	S
For-hire truck	21.5	8.2	23.0	11.5	26.0	5.8	33.0
Private truck	34.8	7.7	32.4	5.7	48.6	4.7	S
Rail	34.5	1.3	37.9	1.2	40.0	5.1	15.5
Water	S	S	S	S	S	S	32.3
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	29.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	34.6	.6	29.2	.5	33.8	1.5	20.2
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	28.1
Truck and rail	S	S	45.8	.5	45.0	1.1	21.2
Truck and water	S	S	S	S	S	S	23.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	22.9	—	15.0	—	19.2	—	30.8
Single modes	22.4	2.5	14.3	3.0	20.0	1.9	37.5
Truck	23.0	3.5	15.2	4.9	19.7	1.9	41.8
For-hire truck	25.3	7.9	21.9	8.0	31.9	10.4	27.6
Private truck	36.0	8.0	27.0	7.2	38.0	9.3	25.3
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	42.6	.2	43.6	1.9	40.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.0
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	26.4
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	46.5	1.5	42.5	3.0	30.7	.7	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	16.4	—	15.5	—	27.5	—	S
Single modes	16.9	4.0	16.1	3.4	29.9	7.3	S
Truck	18.9	5.8	17.9	7.6	28.9	13.5	S
For-hire truck	26.0	6.1	26.9	6.9	32.4	12.3	12.1
Private truck	21.4	7.1	23.2	6.7	31.8	3.9	27.3
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	46.6
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	28.7
Air (includes truck and air)	44.5	.4	47.6	.2	36.4	.9	17.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	40.1	.4	18.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	25.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	48.3	.4	24.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	45.0	4.2	46.4	3.5	S	S	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	20.9	—	37.4	—	40.3	—	33.7
Single modes	21.1	1.1	38.0	.9	40.8	1.4	49.3
Truck	18.3	3.8	32.9	5.0	28.6	11.3	S
For-hire truck	41.5	7.3	45.4	5.7	26.2	11.6	26.0
Private truck	13.6	9.4	20.6	8.3	41.6	1.9	25.0
Rail	S	S	S	S	S	S	28.4
Water	S	S	S	S	S	S	27.9
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	27.9
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	48.7	.3	S	S	23.2
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	27.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	48.2	.4	48.2	.3	49.2	1.4	24.1
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	10.5	—	7.4	—	10.4	—	19.4
Single modes	10.7	.7	7.8	.8	10.9	1.4	24.5
Truck	11.9	2.0	8.5	2.5	9.2	6.0	25.0
For-hire truck	14.1	3.6	13.3	4.3	11.5	5.1	17.7
Private truck	14.5	4.1	12.2	3.9	17.7	3.3	24.9
Rail	21.9	1.8	20.9	2.1	24.9	5.6	13.4
Water	S	S	S	S	S	S	28.8
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	28.8
Air (includes truck and air)	S	S	S	S	S	S	28.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	35.6	.5	23.4	.5	23.9	1.3	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	S	S	S	S	S	S	28.8
Truck and water	29.4	.2	25.0	.2	24.9	.5	17.2
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	36.5	.4	36.3	.5	33.1	.4	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	14.7	—	12.7	—	32.6	—	27.8
Single modes	15.8	2.0	13.0	2.6	38.9	9.6	34.4
Truck	15.7	2.0	12.9	2.6	38.3	9.4	35.0
For-hire truck	41.8	7.2	28.9	6.7	38.3	12.4	18.8
Private truck	11.8	7.2	14.1	8.0	43.2	12.6	8.9
Rail	S	S	S	S	S	S	30.4
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	27.7
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	30.1
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	27.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	42.2	1.0	S	S	S	S	31.2

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 09, TOBACCO PRODUCTS							
Total	29.0	—	39.0	—	41.9	—	15.3
Single modes	29.0	—	39.0	—	41.9	—	15.4
Truck	29.0	—	39.0	—	41.9	—	15.4
For-hire truck	—	—	—	—	—	—	—
Private truck	29.0	—	39.0	—	41.9	—	15.4
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	31.6
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	\$	\$	\$	\$	\$	\$	\$
Single modes	\$	\$	\$	\$	\$	\$	\$
Truck	\$	\$	\$	\$	\$	\$	\$
For-hire truck	\$	\$	\$	\$	\$	\$	31.6
Private truck	\$	\$	\$	\$	\$	\$	\$
Rail	\$	\$	\$	\$	\$	\$	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	31.6
SCTG 11, NATURAL SANDS							
Total	\$	\$	49.4	—	41.6	—	\$
Single modes	\$	\$	49.6	1.0	44.8	9.8	\$
Truck	\$	\$	46.3	11.8	49.5	12.7	\$
For-hire truck	\$	\$	\$	\$	34.2	9.1	\$
Private truck	\$	\$	49.4	13.5	\$	\$	22.2
Rail	42.0	9.0	47.5	9.9	46.7	10.7	25.8
Water	\$	\$	\$	\$	\$	\$	27.9
Shallow draft	\$	\$	\$	\$	\$	\$	27.9
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	\$

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	31.3	—	17.8	—	16.5	—	9.4
Single modes	31.8	1.0	18.2	.9	16.6	.4	9.1
Truck	32.1	1.2	18.6	1.5	17.1	2.0	8.9
For-hire truck	41.3	5.9	48.9	5.6	44.4	5.7	27.9
Private truck	37.9	5.7	21.3	4.9	20.0	6.1	9.3
Rail	S	S	S	S	S	S	27.9
Water	41.5	.5	42.7	1.1	45.3	1.8	26.4
Shallow draft	41.5	.5	42.7	1.1	45.3	1.8	26.4
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	40.6	1.0	34.5	.9	36.1	.4	24.2
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	24.4	—	40.4	—	32.9	—	S
Single modes	26.2	8.9	41.5	9.8	37.2	11.9	S
Truck	26.1	9.0	43.6	10.4	40.9	10.7	S
For-hire truck	34.4	8.9	S	S	S	S	33.1
Private truck	30.8	10.8	S	S	26.1	14.5	S
Rail	S	S	S	S	S	S	27.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	44.5	.7	S	S	S	S	37.1
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	30.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	28.4
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	47.6	9.0	S	S	S	S	S
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	S	S	S	S	S	S	S
Single modes	S	S	S	S	S	S	S
Truck	S	S	S	S	S	S	S
For-hire truck	S	S	S	S	S	S	31.6
Private truck	S	S	S	S	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 15, COAL							
Total	S	S	S	S	S	S	27.9
Single modes	—	—	—	—	—	—	—
Truck	—	—	—	—	—	—	—
For-hire truck	—	—	—	—	—	—	—
Private truck	—	—	—	—	—	—	—
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	27.9
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	21.6	—	22.5	—	36.9	—	16.1
Single modes	22.0	1.5	22.8	1.2	37.0	1.3	16.5
Truck	16.7	9.0	23.2	10.3	15.6	12.7	16.8
For-hire truck	31.3	.9	30.1	1.2	49.6	1.7	22.6
Private truck	16.2	8.5	23.5	9.7	15.8	11.9	17.8
Rail	—	—	—	—	—	—	—
Water	49.0	5.2	47.6	5.6	S	S	26.1
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	49.0	5.2	47.6	5.6	S	S	26.1
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	33.1
SCTG 18, FUEL OILS							
Total	31.2	—	38.0	—	43.5	—	32.4
Single modes	30.0	1.3	35.8	1.5	45.6	4.3	34.4
Truck	17.3	11.3	20.0	11.9	25.7	14.9	21.6
For-hire truck	35.8	1.0	36.5	1.1	S	S	28.3
Private truck	18.4	11.2	21.2	11.6	29.4	14.7	22.1
Rail	S	S	S	S	S	S	28.4
Water	29.9	9.0	33.0	9.8	S	S	30.9
Shallow draft	29.0	7.9	37.8	9.0	36.5	12.9	24.5
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.8

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	43.6	—	42.0	—	S	S	S
Single modes	42.7	.8	41.9	.1	S	S	S
Truck	44.2	8.6	42.0	10.9	49.8	16.6	14.7
For-hire truck	S	S	S	S	S	S	32.1
Private truck	43.8	9.1	40.1	10.6	47.2	13.0	15.4
Rail	S	S	S	S	S	S	27.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.9
Pipeline	S	S	S	S	S	S	S
Multiple modes	44.0	—	S	S	S	S	35.5
Parcel, U.S. Postal Service or courier	44.0	—	S	S	S	S	35.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	46.0
SCTG 20, BASIC CHEMICALS							
Total	16.0	—	13.0	—	15.9	—	23.2
Single modes	15.7	2.4	13.1	.3	16.6	2.4	35.0
Truck	15.0	5.4	11.0	4.5	14.2	2.7	26.3
For-hire truck	34.6	5.6	13.6	1.9	20.7	2.0	24.1
Private truck	21.1	7.8	18.9	5.3	15.4	1.1	21.1
Rail	18.9	2.3	18.5	3.1	19.4	5.3	12.5
Water	S	S	S	S	S	S	29.7
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	29.7
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	44.7	.6	43.9	1.6	S	S	S
Multiple modes	48.1	2.6	31.9	.4	39.6	2.4	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	44.4	1.2	45.4	.4	45.6	2.4	25.8
Truck and water	S	S	44.7	.1	40.7	.1	42.5
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	47.5	.7	46.0	—	S	S	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	30.7	—	46.1	—	S	S	22.5
Single modes	40.9	10.0	S	S	S	S	24.5
Truck	41.1	7.6	49.0	9.7	S	S	24.5
For-hire truck	S	S	S	S	S	S	22.7
Private truck	48.6	6.7	S	S	S	S	23.5
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	19.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	26.5	10.0	42.1	9.0	33.3	12.0	38.2
Parcel, U.S. Postal Service or courier	26.7	10.0	42.1	9.2	42.0	10.7	38.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	28.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	39.5

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 22, FERTILIZERS							
Total	24.6	—	31.7	—	S	S	S
Single modes	24.7	.6	32.0	.6	S	S	S
Truck	28.3	8.4	28.5	8.9	40.7	19.0	32.7
For-hire truck	39.3	6.5	40.4	6.9	41.7	8.4	S
Private truck	33.1	10.4	28.2	11.3	41.8	16.4	23.8
Rail	45.9	8.5	S	S	S	S	25.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	24.2
Parcel, U.S. Postal Service or courier	S	S	39.2	—	44.5	.3	23.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	29.5
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	43.7	.4	S
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	32.8	—	33.6	—	S	S	17.4
Single modes	27.3	3.5	34.0	2.9	S	S	18.6
Truck	28.5	4.5	23.9	10.6	23.9	18.3	22.0
For-hire truck	34.7	5.0	26.0	7.2	23.8	16.6	12.2
Private truck	28.4	7.0	27.9	7.5	37.1	1.7	23.6
Rail	S	S	S	S	S	S	27.9
Water	S	S	S	S	S	S	28.1
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	28.1
Air (includes truck and air)	S	S	S	S	S	S	20.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	47.6	3.0	S	S	45.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	36.2
Truck and rail	S	S	S	S	S	S	23.7
Truck and water	S	S	40.0	.2	47.2	.4	26.8
Rail and water	S	S	S	S	S	S	29.8
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.5	.2	30.5	.2	39.5	—	S
SCTG 24, PLASTICS AND RUBBER							
Total	8.4	—	24.1	—	20.6	—	12.1
Single modes	5.9	2.3	13.9	4.8	19.2	2.1	13.5
Truck	5.6	2.3	13.9	4.8	18.9	3.7	15.4
For-hire truck	9.0	3.9	16.4	5.1	17.9	4.0	15.5
Private truck	10.0	3.5	16.0	5.7	28.6	1.9	13.8
Rail	37.2	.6	37.9	1.2	37.7	4.3	23.6
Water	S	S	49.5	—	S	S	26.7
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	49.5	—	S	S	26.7
Air (includes truck and air)	28.3	—	26.7	—	29.2	—	22.1
Pipeline	S	S	S	S	S	S	S
Multiple modes	33.1	2.3	15.1	.4	23.4	2.0	21.6
Parcel, U.S. Postal Service or courier	34.2	2.2	21.0	.3	30.4	.4	21.9
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	29.0	.1	32.3	.3	37.3	1.9	19.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	27.7	1.1	S	S	S	S	S

See footnote at end of table.

Table B–6. Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	16.0	—	37.6	—	32.0	—	18.4
Single modes	18.0	7.5	41.6	5.5	21.7	11.4	15.2
Truck	17.7	7.2	41.5	5.3	21.7	11.2	15.0
For-hire truck	32.0	8.7	37.4	9.3	35.7	9.6	23.1
Private truck	25.4	8.9	S	S	29.3	8.6	42.4
Rail	S	S	S	S	S	S	25.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	43.5	3.0	35.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	32.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	45.7	.4	S	S	S	S	26.2
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 26, WOOD PRODUCTS							
Total	7.2	—	24.8	—	11.8	—	21.8
Single modes	7.7	2.2	26.4	2.2	14.5	4.0	27.6
Truck	9.4	3.0	31.5	5.3	16.0	4.0	31.3
For-hire truck	10.9	3.7	8.8	5.4	14.9	3.1	11.9
Private truck	12.7	2.4	S	S	28.5	1.9	19.5
Rail	17.1	2.8	49.7	5.7	26.3	7.2	19.1
Water	S	S	S	S	S	S	21.8
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	21.8
Air (includes truck and air)	S	S	S	S	S	S	17.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	31.2	2.1	37.2	1.8	30.2	3.6	13.6
Parcel, U.S. Postal Service or courier	49.7	—	S	S	S	S	27.8
Truck and rail	32.1	1.9	43.5	1.8	34.6	3.6	2.2
Truck and water	32.5	.3	35.4	.4	41.2	1.3	12.0
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	37.4	1.2	31.8	1.2	42.4	.7	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	13.7	—	13.9	—	11.9	—	42.1
Single modes	16.8	4.5	17.0	4.6	17.5	6.1	35.0
Truck	18.7	4.8	19.2	5.0	21.9	4.7	42.1
For-hire truck	18.2	4.8	20.0	4.9	22.0	4.4	7.0
Private truck	34.5	1.8	22.9	1.0	42.1	.5	S
Rail	17.3	3.8	17.8	4.0	18.0	5.4	6.1
Water	S	S	47.4	1.8	S	S	26.3
Shallow draft	S	S	S	S	44.6	—	30.2
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	25.7
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	26.0	4.1	24.3	4.1	19.3	6.1	34.2
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	49.8
Truck and rail	23.6	2.3	21.7	2.1	27.3	4.8	16.2
Truck and water	47.8	2.6	48.3	2.7	46.4	2.9	24.7
Rail and water	S	S	S	S	S	S	30.1
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	42.0	.4	42.7	.5	S	S	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	11.9	—	10.9	—	21.3	—	30.3
Single modes	12.5	2.3	10.6	2.4	21.1	3.8	35.4
Truck	13.1	2.8	10.9	2.8	23.9	7.1	35.7
For-hire truck	19.9	7.5	17.4	6.9	25.5	8.6	15.0
Private truck	19.9	7.1	23.7	7.0	18.1	3.5	14.2
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	28.4
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	28.3
Air (includes truck and air)	S	S	S	S	49.1	.3	22.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	16.1
Parcel, U.S. Postal Service or courier	S	S	31.6	—	S	S	17.5
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	46.4	.5	S	S	S	S	22.2
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 29, PRINTED PRODUCTS							
Total	12.6	—	15.8	—	30.0	—	43.6
Single modes	16.4	6.0	21.2	6.8	17.4	9.9	S
Truck	17.5	6.5	21.7	7.2	22.1	9.3	S
For-hire truck	23.6	2.6	23.3	2.7	25.0	7.9	28.9
Private truck	17.5	5.1	24.0	8.1	22.4	3.3	10.1
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	9.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	24.6	4.3	35.5	3.9	S	S	17.4
Parcel, U.S. Postal Service or courier	25.0	4.4	36.1	3.8	S	S	17.4
Truck and rail	S	S	S	S	S	S	29.9
Truck and water	S	S	S	S	S	S	28.5
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	25.4	4.2	38.6	4.9	S	S	S
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	31.4	—	23.1	—	35.4	—	12.6
Single modes	39.2	6.3	26.5	5.2	40.8	6.1	25.5
Truck	40.7	6.6	29.9	6.4	S	S	28.1
For-hire truck	S	S	46.9	6.4	S	S	14.2
Private truck	28.7	4.7	31.8	7.9	30.6	3.3	16.8
Rail	41.0	.8	40.9	4.1	40.9	7.6	25.8
Water	S	S	S	S	S	S	25.2
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	23.6
Air (includes truck and air)	39.8	.2	43.9	.1	38.1	.2	11.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	26.1	6.0	28.2	4.9	25.4	5.7	7.6
Parcel, U.S. Postal Service or courier	25.6	6.0	21.4	4.5	27.1	5.3	7.7
Truck and rail	S	S	S	S	S	S	30.4
Truck and water	S	S	S	S	44.7	.8	20.4
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	21.1	1.0	21.8	.7	49.0	1.8	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	15.5	—	16.2	—	16.4	—	S
Single modes	16.7	3.2	16.2	.7	16.7	5.0	S
Truck	18.2	4.6	19.1	5.4	21.5	9.5	S
For-hire truck	20.2	5.5	19.5	5.6	27.7	7.9	27.7
Private truck	22.9	7.8	23.5	9.9	22.3	5.7	S
Rail	35.4	2.0	40.2	5.6	36.0	8.5	S
Water	S	S	S	S	S	S	29.7
Shallow draft	S	S	S	S	S	S	29.7
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	28.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	38.2	.4	S	S	19.8
Parcel, U.S. Postal Service or courier	S	S	41.4	—	S	S	22.1
Truck and rail	42.7	.4	S	S	42.3	1.1	30.4
Truck and water	48.8	.4	S	S	S	S	29.3
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	47.1	.5	S	S	S	S	S
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	9.5	—	11.5	—	12.2	—	11.2
Single modes	9.8	1.6	11.5	1.3	11.7	2.6	8.6
Truck	10.3	3.6	11.8	3.3	17.2	5.7	11.1
For-hire truck	16.1	6.6	16.3	5.3	19.6	5.5	16.3
Private truck	20.9	5.0	20.9	6.0	16.7	1.1	10.8
Rail	16.2	2.6	19.3	3.1	16.1	5.9	8.3
Water	38.0	.4	35.3	1.2	35.5	3.0	20.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	32.4	.3	35.9	.9	35.6	2.9	19.0
Air (includes truck and air)	S	S	S	S	S	S	17.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	22.7	1.4	21.5	1.1	20.9	2.4	12.8
Parcel, U.S. Postal Service or courier	28.9	.1	27.6	—	38.8	—	15.6
Truck and rail	24.8	1.4	24.2	1.1	24.6	2.5	15.5
Truck and water	S	S	S	S	S	S	21.2
Rail and water	S	S	S	S	S	S	31.6
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	24.0	.2	27.3	.4	37.9	.3	S
SCTG 33, ARTICLES OF BASE METAL							
Total	6.0	—	10.6	—	18.6	—	37.5
Single modes	6.8	3.8	11.2	1.9	21.9	4.8	27.1
Truck	6.1	3.7	11.6	3.0	12.1	8.5	29.2
For-hire truck	14.8	4.5	12.8	5.7	16.0	8.2	33.6
Private truck	7.4	4.3	21.6	5.0	26.7	4.1	11.0
Rail	S	S	S	S	S	S	29.8
Water	S	S	S	S	48.2	.7	22.5
Shallow draft	S	S	S	S	S	S	29.9
Great Lakes	—	—	—	—	—	—	—
Deep draft	47.6	.1	S	S	S	S	23.6
Air (includes truck and air)	36.8	.2	41.7	—	46.7	.5	10.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	31.0	3.6	27.0	.5	36.6	2.6	27.4
Parcel, U.S. Postal Service or courier	32.6	3.8	32.0	.5	26.1	1.3	27.4
Truck and rail	S	S	S	S	S	S	30.0
Truck and water	S	S	S	S	S	S	39.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	26.4	1.7	30.4	1.8	S	S	47.6

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	9.9	—	22.8	—	23.6	—	16.9
Single modes	11.8	3.4	23.6	1.9	25.1	2.4	22.0
Truck	11.4	2.9	23.6	1.7	25.5	2.8	23.8
For-hire truck	15.6	4.1	25.2	4.5	26.9	5.7	15.7
Private truck	12.7	3.3	25.4	4.2	28.7	3.6	42.4
Rail	S	S	S	S	S	S	31.6
Water	47.6	.2	S	S	S	S	28.2
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	28.0
Air (includes truck and air)	31.3	.8	33.1	.4	38.2	1.0	4.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	17.3	3.2	15.3	1.3	10.1	.8	22.1
Parcel, U.S. Postal Service or courier	17.5	3.2	15.9	1.1	12.0	.5	22.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	27.1
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	21.5	.9	31.3	.8	38.3	1.8	S
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	13.2	—	12.3	—	24.2	—	12.8
Single modes	17.0	5.0	11.9	4.9	27.2	6.5	37.0
Truck	15.7	3.1	12.9	5.4	30.7	5.6	18.0
For-hire truck	32.8	4.3	29.4	5.2	38.1	6.6	23.5
Private truck	17.3	3.3	25.6	9.9	S	S	22.2
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	23.8	3.7	26.4	1.0	23.9	2.2	5.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.6	4.0	27.1	4.3	29.7	6.0	14.8
Parcel, U.S. Postal Service or courier	15.7	4.0	29.2	4.0	21.4	6.9	14.8
Truck and rail	S	S	S	S	S	S	26.7
Truck and water	S	S	S	S	S	S	32.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	23.1	1.9	44.7	1.5	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	14.4	—	17.6	—	31.8	—	43.0
Single modes	16.5	8.1	23.6	8.0	S	S	32.9
Truck	14.0	8.0	21.7	7.8	49.4	11.0	34.9
For-hire truck	38.0	4.7	42.9	6.2	S	S	28.6
Private truck	12.4	6.8	28.1	7.4	44.6	7.4	36.2
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	42.6
Shallow draft	S	S	S	S	S	S	30.4
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	29.5
Air (includes truck and air)	35.8	.1	38.8	—	49.7	.3	19.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	24.9	3.2	24.4	1.5	34.3	2.7	24.4
Parcel, U.S. Postal Service or courier	28.5	3.3	29.9	1.6	29.4	3.0	24.4
Truck and rail	43.5	.2	S	S	49.9	1.3	25.8
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	31.9	10.1	36.5	8.7	41.2	13.0	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	39.0	—	17.7	—	16.1	—	14.4
Single modes	40.0	3.5	20.0	4.6	16.0	5.9	S
Truck	18.4	12.7	25.8	7.8	20.0	10.2	S
For-hire truck	27.4	6.4	34.4	8.0	21.4	10.7	25.7
Private truck	13.4	6.2	17.7	4.7	24.5	1.3	S
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	41.7	15.9	41.6	7.0	26.9	8.8	4.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	45.1	2.8	S	S	S	S	12.1
Parcel, U.S. Postal Service or courier	45.1	2.8	S	S	S	S	12.1
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	47.2	.9	35.7	1.2	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	40.5	—	S	S	S	S	11.7
Single modes	25.2	7.4	32.4	10.4	32.7	15.3	22.1
Truck	33.7	7.6	34.7	10.1	42.3	12.3	30.1
For-hire truck	41.8	7.3	48.6	9.3	49.6	11.4	29.1
Private truck	S	S	43.6	7.4	S	S	39.0
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	36.1	4.3	38.1	7.3	5.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	12.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	12.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	22.8	—	47.3	—	20.9	—	31.5
Single modes	22.8	.7	47.2	1.2	20.5	1.9	35.8
Truck	22.9	.7	47.3	1.1	21.1	3.0	37.0
For-hire truck	14.2	6.4	17.3	8.5	22.8	5.1	18.6
Private truck	31.4	6.4	S	S	21.5	3.3	24.8
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	15.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.5	.4	26.4	.8	31.6	1.7	36.3
Parcel, U.S. Postal Service or courier	35.4	.4	39.4	.3	37.8	.5	38.5
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	49.3	.3	S	S	S	S	26.3
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.5	.7	S	S	S	S	30.1

See footnote at end of table.

Table B–6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	25.0	—	28.3	—	26.8	—	12.5
Single modes	22.9	9.9	31.0	5.0	37.5	8.5	21.8
Truck	23.3	9.8	31.1	5.2	38.3	8.9	42.9
For-hire truck	25.4	8.3	31.4	7.2	43.5	8.5	12.8
Private truck	25.5	3.7	37.6	7.1	43.9	5.2	15.2
Rail	S	S	S	S	S	S	24.1
Water	S	S	S	S	43.5	—	33.6
Shallow draft	S	S	S	S	S	S	30.3
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	44.2	—	43.0	—	24.0
Air (includes truck and air)	S	S	S	S	S	S	10.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	36.0	10.0	32.5	4.6	31.2	8.5	9.0
Parcel, U.S. Postal Service or courier	36.2	10.0	34.5	4.4	35.5	8.3	9.0
Truck and rail	S	S	S	S	S	S	26.0
Truck and water	46.9	.2	48.6	.5	45.2	2.3	24.2
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	21.2	.4	S	S	25.1	—	S
SCTG 41, WASTE AND SCRAP							
Total	46.3	—	S	S	33.5	—	S
Single modes	S	S	S	S	38.5	8.8	26.0
Truck	S	S	S	S	46.4	10.8	27.6
For-hire truck	S	S	S	S	S	S	S
Private truck	30.4	1.7	28.3	2.1	43.7	1.0	S
Rail	20.4	5.4	23.4	10.5	41.6	6.1	30.0
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	37.0	5.9	31.4	1.1	30.6	8.9	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	36.9	5.7	30.4	.9	30.0	7.4	10.8
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 43, MIXED FREIGHT							
Total	25.4	—	28.6	—	25.9	—	S
Single modes	25.7	3.7	28.7	.4	26.1	1.5	S
Truck	25.8	4.3	28.8	.7	26.4	9.5	S
For-hire truck	S	S	S	S	S	S	30.8
Private truck	27.5	6.1	29.5	1.9	27.0	10.7	20.6
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	32.7
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	S
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	44.5	.2	44.5	.2	46.7	—	26.0

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
COMMODITY UNKNOWN							
Total	\$	\$	\$	\$	\$	\$	29.1
Single modes	\$	\$	\$	\$	\$	\$	40.0
Truck	49.9	13.1	\$	\$	\$	\$	36.8
For-hire truck	\$	\$	39.8	13.4	\$	\$	24.3
Private truck	27.0	11.1	30.7	14.1	39.6	8.1	\$
Rail	\$	\$	\$	\$	\$	\$	43.8
Water	\$	\$	\$	\$	\$	\$	31.0
Shallow draft	\$	\$	\$	\$	\$	\$	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	\$	\$	\$	\$	\$	\$	31.6
Air (includes truck and air)	\$	\$	\$	\$	45.5	—	22.1
Pipeline	\$	\$	\$	\$	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	23.6
Parcel, U.S. Postal Service or courier	\$	\$	43.5	—	42.4	.8	23.9
Truck and rail	\$	\$	\$	\$	\$	\$	31.6
Truck and water	\$	\$	\$	\$	\$	\$	28.0
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	31.2

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-7. **Measures of Reliability for Shipment Characteristics by State of Destination for State of Origin: 1997**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

State of destination	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	8.9	—	7.9	—	5.1	—
NEW ENGLAND STATES						
Connecticut	14.3	—	S	S	S	S
Maine	S	S	29.3	—	30.9	—
Massachusetts	8.9	—	22.0	—	21.0	.3
New Hampshire	26.4	—	44.5	—	45.0	.1
Rhode Island	47.3	—	38.7	—	38.8	—
Vermont	43.5	—	30.1	—	30.0	—
MIDDLE ATLANTIC STATES						
New Jersey	38.6	.3	17.3	—	17.1	.3
New York	31.2	.4	19.1	—	20.1	.3
Pennsylvania	31.9	.2	16.9	—	17.2	.3
EAST NORTH CENTRAL STATES						
Illinois	S	S	8.6	—	9.0	.2
Indiana	15.1	—	14.6	—	14.4	.1
Michigan	19.6	.2	19.9	—	20.7	.4
Ohio	28.1	.2	23.1	—	21.6	.2
Wisconsin	26.4	.2	12.4	—	12.7	.1
WEST NORTH CENTRAL STATES						
Iowa	18.6	—	20.6	—	20.4	.2
Kansas	36.3	.1	22.4	—	23.0	—
Minnesota	24.0	.1	20.2	—	21.6	.2
Missouri	15.7	—	15.8	—	15.8	.1
Nebraska	17.9	—	S	S	49.5	.1
North Dakota	32.0	—	S	S	S	S
South Dakota	23.9	—	44.5	—	39.3	—
SOUTH ATLANTIC STATES						
Delaware	39.6	—	S	S	S	S
District of Columbia	S	S	48.9	—	48.9	—
Florida	S	S	12.2	—	12.3	.1
Georgia	11.5	—	13.2	—	13.2	.3
Maryland	23.7	—	23.4	—	24.2	.1
North Carolina	17.6	—	16.1	—	17.3	.2
South Carolina	16.4	—	23.7	—	24.4	—
Virginia	21.4	.1	19.2	—	19.1	.1
West Virginia	26.2	—	S	S	S	S
EAST SOUTH CENTRAL STATES						
Alabama	36.9	.2	22.2	—	22.1	.3
Kentucky	15.8	—	23.1	—	22.3	.1
Mississippi	S	S	41.2	—	45.4	—
Tennessee	45.5	.3	27.0	—	26.6	.4
WEST SOUTH CENTRAL STATES						
Arkansas	21.0	—	24.8	—	25.1	.2
Louisiana	25.2	—	27.9	—	28.0	.3
Oklahoma	27.3	—	34.6	—	37.3	.2
Texas	31.2	1.5	23.1	.1	23.8	1.8
MOUNTAIN STATES						
Arizona	S	S	18.1	—	17.1	.3
Colorado	7.4	—	17.1	—	18.2	.3
Idaho	8.7	.1	12.1	.2	12.4	.2
Montana	18.2	—	10.3	—	11.4	—
Nevada	17.3	—	23.3	—	26.9	.2
New Mexico	22.1	—	40.8	—	40.1	—
Utah	12.4	—	26.2	.1	26.5	.5
Wyoming	35.7	—	32.9	—	34.6	—
PACIFIC STATES						
Alaska	26.8	.5	47.6	.4	S	S
California	17.7	1.3	17.2	.6	20.5	3.4
Hawaii	S	S	46.3	—	45.2	.5
Oregon	4.8	.6	15.4	2.2	17.7	1.8
Washington	13.7	3.0	11.2	2.8	8.8	1.7

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B–8. **Measures of Reliability for Inbound Shipment Characteristics by State of Origin for State of Destination: 1997**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

State of origin	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	6.6	—	11.2	—	12.6	—
NEW ENGLAND STATES						
Connecticut	31.4	—	S	S	S	S
Maine	21.3	—	18.7	—	18.9	—
Massachusetts	24.8	.2	34.8	—	34.6	—
New Hampshire	30.1	—	32.8	—	32.3	—
Rhode Island	S	S	29.5	—	29.5	—
Vermont	42.9	—	23.8	—	23.8	—
MIDDLE ATLANTIC STATES						
New Jersey	11.8	.1	23.5	—	23.5	.2
New York	13.5	.1	19.2	—	19.0	.2
Pennsylvania	14.3	.1	9.4	—	9.2	.2
EAST NORTH CENTRAL STATES						
Illinois	8.9	.1	10.1	—	10.1	.3
Indiana	12.7	—	14.9	—	15.4	—
Michigan	16.8	.3	19.1	—	18.5	.5
Ohio	14.9	.1	16.7	—	16.8	.3
Wisconsin	8.9	—	18.6	—	18.2	.4
WEST NORTH CENTRAL STATES						
Iowa	16.3	.1	19.1	—	19.5	.4
Kansas	S	S	29.4	—	32.8	.2
Minnesota	15.5	.3	24.1	.7	24.3	3.7
Missouri	15.1	.1	23.6	—	23.9	.4
Nebraska	20.2	.2	34.8	1.3	34.2	4.7
North Dakota	29.2	—	S	S	S	S
South Dakota	45.8	.3	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	35.2	—	29.3	—	29.7	—
District of Columbia	—	—	—	—	—	—
Florida	29.7	.2	34.0	—	35.0	.2
Georgia	23.1	.1	41.8	—	42.5	.7
Maryland	32.2	—	36.4	—	35.8	—
North Carolina	6.9	—	11.2	—	10.9	.2
South Carolina	11.8	—	35.4	—	36.4	.2
Virginia	21.3	.2	17.2	—	17.0	—
West Virginia	25.6	—	33.8	—	34.7	.1
EAST SOUTH CENTRAL STATES						
Alabama	22.2	—	26.0	—	26.3	.1
Kentucky	22.2	.2	16.7	—	16.6	.2
Mississippi	34.7	.1	S	S	S	S
Tennessee	11.1	.1	38.2	—	38.8	.5
WEST SOUTH CENTRAL STATES						
Arkansas	11.4	—	23.0	—	24.6	.3
Louisiana	45.1	—	27.5	—	28.1	.3
Oklahoma	19.9	—	32.6	—	31.5	—
Texas	13.9	.3	13.5	—	14.1	.6
MOUNTAIN STATES						
Arizona	22.5	.3	22.5	—	23.8	—
Colorado	14.9	—	27.6	—	30.4	.2
Idaho	24.6	.4	20.7	.2	27.0	.3
Montana	12.4	—	21.6	.5	27.0	1.2
Nevada	16.8	—	20.9	—	19.3	—
New Mexico	34.3	—	S	S	S	S
Utah	10.1	—	24.9	.1	27.3	.3
Wyoming	43.6	—	S	S	S	S
PACIFIC STATES						
Alaska	30.0	.2	S	S	S	S
California	6.9	.7	12.4	.2	15.1	.6
Hawaii	27.6	—	42.6	—	39.0	—
Oregon	13.8	1.8	23.9	.9	23.7	.4
Washington	13.7	2.9	11.2	2.3	8.8	1.4

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Appendix C.

Sample Design, Data Collection, and Estimation

INTRODUCTION

The primary goal for the 1997 Commodity Flow Survey (CFS) is to estimate shipping volumes (value, tons, and ton-miles) by commodity and mode of transportation at varying levels of geographic detail. A detailed description of the sample design for the 1997 CFS is provided below.

SAMPLE DESIGN

The sample for the 1997 CFS is selected using a stratified three-stage design in which the first-stage sampling units are establishments, the second-stage sampling units are groups of four 1-week periods (reporting weeks) within the survey year, and the third-stage sampling units are shipments.

First Stage

To create the first-stage sampling frame, we extracted a subset of establishment records from the 1995 Standard Statistical Establishment List (SSEL). The SSEL is a database, maintained by the Bureau of the Census, that contains a record for each establishment with employees. (An establishment is a single physical location where business transactions take place.) Establishments having nonzero payroll in 1994 and classified in the mining, manufacturing, wholesale, or selected retail industries, as defined by the 1987 Standard Industrial Classification (SIC) Manual, are included on the sampling frame. Auxiliary establishments (e.g. warehouses and central administrative offices) with shipping activity are also included. Auxiliary establishments are establishments that are primarily involved in rendering support services for other establishments within the same company, instead of for the public, government, or other business firms. All other establishments contained on the sampling frame are referred to as nonauxiliary establishments. For each establishment we extracted sales, payroll, number of employees, name and address information, as well as a primary identifier. We also computed a measure of size for each establishment. The measure of size for a particular establishment is designed to approximate the establishment's total value of shipments for 1994.

To reduce the amount of sampling variability and because estimates are desired for each commodity, we used a stratified design with a certainty component for each three-digit SIC. To accomplish this, each establishment on the sampling frame is classified into a three-digit

SIC grouping. For each group of establishments, a boundary (or cutoff) that divides the certainty establishments from the noncertainty establishments is determined using the Lavallee-Hidiroglou algorithm. If an establishment's measure of size is greater than the cutoff, the establishment is selected "with certainty". Establishments selected "with certainty" were assured of being selected and represented only themselves (i.e., have a selection probability of one and a sampling weight of one). No certainty cutoffs are set for auxiliary establishments because they only make up a small portion of the estimated total value of shipments for all establishments on the sampling frame.

Establishments not selected with certainty make up the noncertainty universe. We stratify the noncertainty universe by SIC recode, National Transportation Analysis Region (NTAR), and a flag used to differentiate auxiliary establishments from nonauxiliary establishments. Each SIC recode is constructed from a group of related three-digit SIC codes. The NTARs, developed by the Department of Transportation as combinations of Bureau of Economic Analysis (BEA) Areas, collectively provide a mutually exclusive and exhaustive coverage of the United States. Finally, the auxiliary stratification came about because establishments with different types of operation may have different shipping practices. We refer to a particular SIC recode-NTAR-auxiliary flag combination as a primary stratum.

We further stratify the noncertainty establishments within each primary stratum using the measure of size previously described. We refer to these measure-of-size strata as substrata of the primary strata. The measure of size stratification increases the efficiency of the sample design. The Dalenius-Hodges cumulative rule is used to set the substratum boundaries. We then use Neyman allocation to determine the sample size required within each substratum to meet a coefficient of variation constraint on the primary stratum total measure of size. Within each substratum, a simple random sample of establishments is selected without replacement.

To arrive at the final sample size, we allocated additional establishments to some of the strata so that the probability of selecting any establishment is no less than 1 in 100. In total, the first-stage sample comprises 102,739 establishments.

Second Stage

The frame for the second stage of sampling consists of 52 one-week reporting periods (reporting weeks) during the interval from December 29, 1996, to December 26,

1997. Each establishment selected for the 1997 CFS was systematically assigned to report for a group of four reporting weeks throughout the survey year. The four reporting weeks in a given group are separated by 12 weeks. For example, an establishment might be requested to report data for the 5th, 18th, 31st, and 44th weeks of the survey year.

Third Stage

For each of the four reporting weeks in which an establishment is asked to report, we request the respondent to construct a sampling frame that consists of all shipments made by their establishment in each particular reporting week. For any particular reporting week, if an establishment makes 40 or fewer shipments during that week, we ask the respondent to provide information about all of their establishment's shipments from that week, i.e., no sampling is required. For establishments making more than 40 shipments in a given reporting week, we ask the respondent to select a systematic sample of these shipments and to provide us with information only about the selected shipments. The size of a particular respondent's sample for a given reporting week should be between 20 and 40 shipments, depending on the total number of shipments the establishment made during that reporting week.

DATA COLLECTION

Each establishment selected into the CFS sample is mailed a questionnaire for each of its four reporting weeks. For a given establishment, we request the respondent to provide the following information about their establishment's shipments: domestic destination or port of exit, commodity, value, weight, mode(s) of transportation, the date on which the shipment was made, and an indication of whether the shipment was an export, hazardous material, or containerized. For shipments that include more than one commodity, respondents are instructed to report the commodity that makes up the greatest percentage of the shipment's weight. For exports, we also ask the respondent to provide the mode of export and the foreign destination city and country.

We used two versions of the questionnaire to collect data from the sampled establishments—the CFS-1000 and the CFS-2000. Each establishment received the CFS-1000 in each of its first three reporting weeks. However, for the fourth reporting week, a subsample of approximately 25,000 establishments received the CFS-2000, while the remaining establishments received the CFS-1000. The CFS-2000 requests the respondent to provide additional information about their establishment's access to on-site and off-site shipping facilities, as well as transportation equipment. See Appendix E for a copy of each questionnaire.

ESTIMATION

Each shipment has associated with it a single tabulation weight, that is used in computing all estimates to which

the shipment contributes. The tabulation weight is a product of seven different weights. A description of each weight follows.

CFS respondents provide data for a sample of shipments made by their respective establishments in the survey year. For each establishment, we produce an estimate of that establishment's total value of shipments for the entire survey year. To do this, we use four different weights, the shipment weight, the shipment nonresponse weight, the quarter weight, and the quarter nonresponse weight.

Like establishments, we identify shipments as either certainty or noncertainty. (See the Nonsampling Error section in Appendix B for a description of how certainty shipments are identified.) For noncertainty shipments, the shipment weight is defined as the ratio of the total number of noncertainty shipments (as reported by the respondent) made by an establishment in a reporting week to the number of sampled noncertainty shipments for the same week. This weight uses the data from the sampled shipments to represent all the establishment's shipments made in the reporting week. However, some respondents fail to provide sufficient information about a sampled shipment. For example, a respondent may not be able to provide value, weight, or a destination ZIP Code for some of the sampled shipments. If these data items cannot be imputed, then these shipments would not contribute to tabulations and are deemed "unusable." (A usable shipment is one that has valid entries for value, weight, and origin and destination ZIP Codes.) To account for these "unusable" shipments, we apply the shipment nonresponse weight. For noncertainty shipments from a particular establishment's reporting week, this weight is equal to the ratio of the number of sampled shipments for the reporting week to the number of "usable" shipments for the same week. The shipment weight and shipment nonresponse weight for certainty shipments from a particular establishment's reporting week are both equal to one.

The quarter weight inflates an establishment's estimate for a particular reporting week to an estimate for the corresponding quarter. For noncertainty shipments, the quarter weight is equal to 13. The quarter weight for most certainty shipments is also equal to 13. However, if a respondent is able to provide information about all large (or certainty) shipments made in the quarter containing the reporting week, then the quarter weight for each of these shipments would be one. For each establishment, the quarterly estimates are added to produce an estimate of the establishment's value of shipments for the entire survey year. Whenever an establishment does not provide the Census Bureau with a response for each of its four reporting weeks, we compute a quarter nonresponse weight. The quarter nonresponse weight for a particular establishment is defined as the ratio of the number of

quarters for which the establishment was in business in the survey year to the total number of quarters (reporting weeks) for which we received usable shipment data from the establishment.

Using these four component weights, we compute an estimate of each establishment's value of shipments for the entire survey year. We then multiply this estimate by a weight that adjusts the estimate using value of shipments and sales data obtained from other Census Bureau surveys and preliminary results of the 1997 Economic Census. This weight, called the establishment-level adjustment weight, attempts to correct for any sampling or nonsampling errors that occur during the sampling of shipments by the respondent.

The adjusted value of shipments estimate for an establishment is then weighted by the establishment weight. This weight is equal to the inverse of the establishment's probability of being selected into the sample.

A final adjustment weight, called the SIC-level adjustment weight, uses preliminary results of the 1997 Economic Census to account for establishments from which we did not receive a response (including establishments from which we did not receive any usable shipment data) and for changes in the population of establishments between the time the first-stage sampling frame was constructed (1995) and the year in which the data were collected (1997). Separate SIC-level adjustment weights are determined for nonauxiliary and auxiliary establishments.

Appendix D.

Standard Classification of Transported Goods Code Information

The commodities shown in this report are classified using the Standard Classification of Transported Goods (SCTG) coding system. The SCTG coding system was created jointly by agencies of the United States and Canadian governments based on the Harmonized System (HS) of product classification which is used worldwide. The purpose of the SCTG coding system was to specifically address statistical needs in regard to products transported.

In the past, Commodity Flow Survey (CFS) data have been collected and reported using product classifications found in the Standard Transportation Commodity Classification (STCC) system. These classifications were developed in the early 1960s by the American Association of Railroads (AAR) to analyze commodity movements by rail. The original purpose of the STCC was for identification of commodities for purposes of assigning rates for Interstate Commerce Commission (ICC) regulated rail carriers. The STCC continues to be used by the AAR as a tariff mechanism.

At the time that the Commodity Transportation Survey (CTS) (the CTS—the predecessor of the CFS) was first conducted in 1963, STCC codes were still useful for analyzing most important aspects of the U.S. transportation system. Since then, many changes have taken place that have gradually made the STCC code less useful for tracking domestic product movements across all modes (although

it remains perfectly functional for tracking rail-only movements). These include the deregulation of trucking, the enactment of North American Free Trade Agreement (NAFTA), changes in logistics practices, the emergence of plastics and composite materials to replace metals and glass, the obsolescence of many categories of wood products, and the very rapid recent development of high-tech electronic goods. Because the CFS is a shipper survey, the CFS collects information about shipments moving on all modes. As a consequence, STCC classifications frequently provide inadequate detail for identifying products that are significant for modes, such as truck and air. It is for these reasons that the Bureau of Transportation Statistics (BTS) has sponsored the development of a new product code to collect and report CFS data.

In 1997 the CFS provided respondents with a listing of SCTG codes and descriptions at the five-digit level to use in assigning a commodity code for each shipment. For shipments of more than one commodity, we instructed respondents to use the five-digit code for the major commodity, defined as the commodity of greatest total weight in the shipment.

Additional information on the SCTG system can be found on the Internet through the BTS web page at <http://www.bts.gov>. Comments or questions on the SCTG should be directed to [http://cfs@bts.gov](mailto:cfs@bts.gov).

Appendix E.

Sample Report Forms and Instructions

The sample report forms and instructions are shown on the following pages.

Note: The CFS-2000 was sent to a subsample of establishments to obtain additional information about the use of transportation equipment and facilities.

1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**Reporting period:****Please return by:****RETURN TO****BUREAU OF THE CENSUS**
1201 East 10th Street
Jeffersonville IN 47132-0001

(Please correct any error in name, address, and ZIP Code)

BEFORE COMPLETING YOUR REPORT, please read the accompanying instruction guide. If book figures are not available for requested data, please provide estimates. If you have any questions, please call 1-800-772-7851.

Through this survey, we are requesting data on a representative sample of your outbound shipments, to help us produce key statistics used by transportation planners and managers. We greatly appreciate your assistance in this program.

Item A Is the establishment name shown in the mailing address correct?

- 1 ☐ Yes
- 2 ☐ No — Enter correct name. ↗

Item B Mark (X) the **ONE** box which best describes this establishment during the one-week period shown above.

- 1 ☐ In operation
- 2 ☐ Temporarily or seasonally inactive
- 3 ☐ Ceased operation — Give date →

Month	Day	Year

Item C Is this establishment's physical location the same as the address shown in the label? (PO boxes or rural routes are not physical locations.)

- 1 ☐ Yes
- 2 ☐ No — Enter physical location below. ↗

Number and street

City, town, village, etc.

State

ZIP Code

NOTE — The rest of this questionnaire requests information about shipments (or deliveries) from the establishment located at the address in the mailing label.

If you entered a different address in item C — Please complete the form for shipments originating from the location listed in item C.

Item D Please enter the **total number** of outbound shipments (or deliveries), including customer pick-up, for the one-week reporting period shown above. If book figures are not available, please provide your best estimate.

--

This number should reflect all shipments and deliveries leaving this location during the one-week reporting period. Please see *Instruction Guide* for a definition of "shipment."**DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.****YOUR RESPONSE IS REQUIRED BY LAW.** Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by Census Bureau employees and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

Item E SAMPLING INSTRUCTIONS

Our goal in this section is to identify a sample of your shipments that you will provide data on. Through the use of a sample, we can avoid asking you for information on all of your shipments, while still obtaining statistically accurate information.

FINDING YOUR SELECTION RATE

If you reported 40 or fewer shipments in item D, please enter "1" as your selection rate in the box below, then go directly to item F and enter the information for each of your shipments.

If you reported 41 or more shipments in item D, we will now ask you to select and report on a sample of your shipments. Following the steps below will result in a sample of 20 to 40 shipments to report on in item F.

In the table at right, identify the selection rate that corresponds to the number you entered in item D, and enter it in the box below.

Please enter your selection rate. →

Number of shipments entered in item D	Selection rate
1— 40	1
41— 80	2
81— 100	3
101— 200	5
201— 400	10
401— 800	20
801— 1600	40
1601— 3200	80
3201— 6400	160
6401—12800	320
More than 12800	Call Census at 1-800-772-7851

CONTINUE ON NEXT PAGE. →

Item F SHIPMENT CHARACTERISTICS

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
0	123-5	4	26	4,235	140	3 5 1 2 0	Electrical transformers	| | | |
00	402H	4	26	125,300	626,500	1 7 1 0 0	Gasoline	1 2 0 3
1						| | | |		| | | |
2						| | | |		| | | |
3						| | | |		| | | |
4						| | | |		| | | |
5						| | | |		| | | |
6						| | | |		| | | |
7						| | | |		| | | |
8						| | | |		| | | |
9						| | | |		| | | |

Mode of transport codes for columns (k) and (n)

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

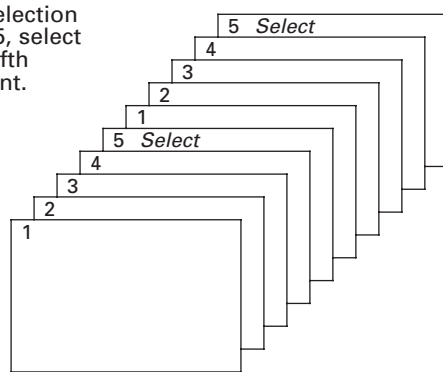
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

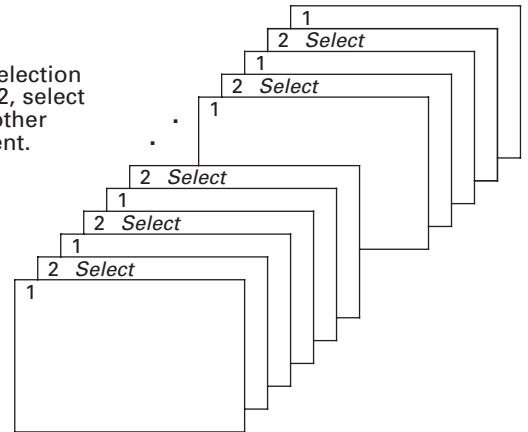
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment as 1 and continue until you reach the selection rate again. Select this shipment to report on in item F.
4. Repeat step 3 until you reach the last shipment for the one-week period. If the last shipment is counted as the selection rate, select this shipment to report on in item F. If the last shipment is not counted as the selection rate, do not report this shipment.

In the following examples, each rectangle represents one shipment.

If the selection rate is 5, select every fifth shipment.



If the selection rate is 2, select every other shipment.



Once you have selected your sample of shipments, please proceed to item F and enter the requested information for each selected shipment. Examples of completed lines for two shipments are provided on lines "0" and "00" below.

If you have difficulties constructing a file of shipments or have questions about how to select the sample of your shipments, please call our toll-free number for assistance: 1-800-772-7851.

Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below.	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)			(m)		(n)	(o)
	City	State	ZIP Code			City	Country		
N	Los Angeles	C A	9 0 0 4 0	2, 4, 3	N				0
N	New York	N Y	1 0 4 5 4	5	Y	London	England	6	00
									1
									2
									3
									4
									5
									6
									7
									8
									9

5 — Shallow draft vessel

6 — Deep draft vessel

7 — Pipeline

8 — Air

9 — Other mode

0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Mode of transport codes for columns (k) and (n)


1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued


Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below. (k)	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit. (m)		Export mode (n)	Line No. (o)
	(j)								
(i)	City	State	ZIP Code			City	Country		
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
35								
36								
37								
38								
39								
40								

Mode of transport codes for columns (k) and (n)


1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued
Item G
1. Do this establishment's outbound shipments leave more than one site within this physical location?

☐ Yes

☐ No

2. Are the records for outbound shipments from this location maintained in a number of separate files (e.g., separate files for each commodity, or for each shipping site) at this location?

☐ Yes

☐ No

If yes to item G1 or item G2:
3. Would it be easier to receive a separate questionnaire for each file or each shipment site?

☐ Yes

☐ No

Item H

Enter the total value of shipments for the one-week reporting period. This figure should represent all products leaving this establishment for the one-week period. An estimate is acceptable.

Total value in whole dollars

Item I

In the last three months did this location have any individual shipments with a value over \$2,000,000?

☐ Yes

☐ No

Item J
CERTIFICATION

Name of person to contact regarding this report — *Please print*

Telephone number — *Include area code*

Date

Signature

Title

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION****Reporting period:****Please return by:****RETURN TO****BUREAU OF THE CENSUS**
1201 East 10th Street
Jeffersonville IN 47132-0001

(Please correct any error in name, address, and ZIP Code)

BEFORE COMPLETING YOUR REPORT, please read the accompanying instruction guide. If book figures are not available for requested data, please provide estimates. If you have any questions, please call 1-800-772-7851.

Through this survey, we are requesting data on a representative sample of your outbound shipments, to help us produce key statistics used by transportation planners and managers. We greatly appreciate your assistance in this program.

Item A Is the establishment name shown in the mailing address correct?

- 1
- ☐
- Yes
-
- 2
- ☐
- No — Enter correct name. ↗

Item B Mark (X) the **ONE** box which best describes this establishment during the one-week period shown above.

- 1
- ☐
- In operation
-
- 2
- ☐
- Temporarily or seasonally inactive
-
- 3
- ☐
- Ceased operation — Give date →

Month	Day	Year

Item C Is this establishment's physical location the same as the address shown in the label? (PO boxes or rural routes are not physical locations.)

- 1
- ☐
- Yes
-
- 2
- ☐
- No — Enter physical location below. ↗

Number and street

City, town, village, etc.

State

ZIP Code

NOTE — The rest of this questionnaire requests information about shipments (or deliveries) from the establishment located at the address in the mailing label.

If you entered a different address in item C — Please complete the form for shipments originating from the location listed in item C.

Item D Please enter the **total number** of outbound shipments (or deliveries), including customer pick-up, for the one-week reporting period shown above. If book figures are not available, please provide your best estimate.

--

This number should reflect all shipments and deliveries leaving this location during the one-week reporting period. Please see Instruction Guide for a definition of "shipment."

**DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.****YOUR RESPONSE IS REQUIRED BY LAW.** Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by Census Bureau employees and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

Item E SAMPLING INSTRUCTIONS

Our goal in this section is to identify a sample of your shipments that you will provide data on. Through the use of a sample, we can avoid asking you for information on all of your shipments, while still obtaining statistically accurate information.

FINDING YOUR SELECTION RATE

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If you reported 41 or more shipments in item D, we will now ask you to select and report on a sample of your shipments. Following the steps below will result in a sample of 20 to 40 shipments to report on in item F.

In the table at right, identify the selection rate that corresponds to the number you entered in item D, and enter it in the box below.

Please enter your selection rate. →

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41— 80	2
81— 100	3
101— 200	5
201— 400	10
401— 800	20
801— 1600	40
1601— 3200	80
3201— 6400	160
6401—12800	320
More than 12800	Call Census at 1-800-772-7851

CONTINUE ON NEXT PAGE. →

Item F SHIPMENT CHARACTERISTICS

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
0	123-5	4	26	4,235	140	3 5 1 2 0	Electrical transformers	| | | |
00	402H	4	26	125,300	626,500	1 7 1 0 0	Gasoline	1 2 0 3
1						| | | |		| | | |
2						| | | |		| | | |
3						| | | |		| | | |
4						| | | |		| | | |
5						| | | |		| | | |
6						| | | |		| | | |
7						| | | |		| | | |
8						| | | |		| | | |
9						| | | |		| | | |

Mode of transport codes for columns (k) and (n)

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

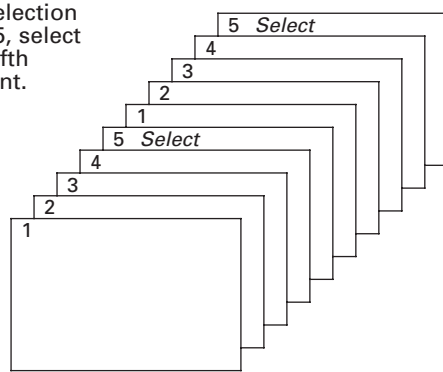
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

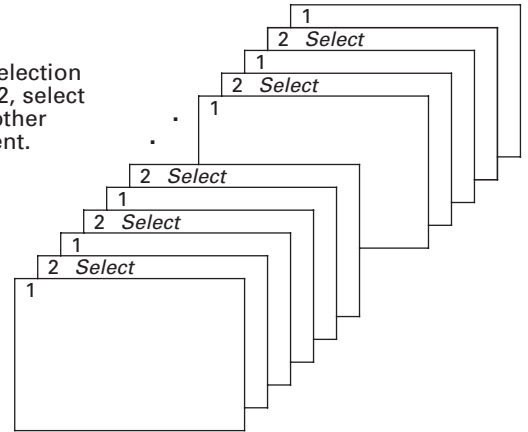
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment as 1 and continue until you reach the selection rate again. Select this shipment to report on in item F.
4. Repeat step 3 until you reach the last shipment for the one-week period. If the last shipment is counted as the selection rate, select this shipment to report on in item F. If the last shipment is not counted as the selection rate, do not report this shipment.

In the following examples, each rectangle represents one shipment.

If the selection rate is 5, select every fifth shipment.



If the selection rate is 2, select every other shipment.



Once you have selected your sample of shipments, please proceed to item F and enter the requested information for each selected shipment. Examples of completed lines for two shipments are provided on lines "0" and "00" below.

If you have difficulties constructing a file of shipments or have questions about how to select the sample of your shipments, please call our toll-free number for assistance: 1-800-772-7851.

Containerized? (Y/N)	U.S. destination <i>(Complete for all shipments.)</i>			Mode(s) of transport to U.S. destination <i>Enter all that apply in order used. Use codes below.</i>	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
N	Los Angeles	C | A	9 | 0 | 0 | 4 | 0	2, 4, 3	N				0
N	New York	N | Y	1 | 0 | 4 | 5 | 4	5	Y	London	England	6	00
		| |	| | | | |						1
		| |	| | | | |						2
		| |	| | | | |						3
		| |	| | | | |						4
		| |	| | | | |						5
		| |	| | | | |						6
		| |	| | | | |						7
		| |	| | | | |						8
		| |	| | | | |						9

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
10								
11								
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31								
32								
33								
34								

 Mode of transport codes
for columns (k) and (n)

1 — Parcel delivery, courier, or U.S.
Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued


Containerized? (Y/N)	U.S. destination <i>(Complete for all shipments.)</i>			Mode(s) of transport to U.S. destination <i>Enter all that apply in order used. Use codes below.</i> (k)	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit. (m)		Export mode (n)	Line No. (o)
	(j)					(m)			
(i)	City	State	ZIP Code			City	Country		
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
35								
36								
37								
38								
39								
40								

Mode of transport codes for columns (k) and (n)


1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued

Item G

Enter the total dollar value of **all** shipments for the one-week reporting period. This figure should represent all products leaving this establishment for the one-week period. An estimate is acceptable.

Total value in whole dollars

Item H

In the last three months did this location have any individual shipments with a value over \$2,000,000?

☐ Yes

☐ No

Item I
AVAILABILITY AND USE OF ON-SITE SHIPPING FACILITIES

In column (b), check "Yes" or "No" for each type of shipping facility to indicate whether or not this type of facility existed **on-site** during 1997. For each "Yes" in column (b), check "Yes" or "No" in column (c) to indicate whether or not you used the facility on your premises for **outbound shipments** during 1997.

Type of shipping facility (a)	Was a shipping facility of this type on your premises during 1997? (b)	Did you use this facility on your premises for outbound shipments during 1997? (c)
1. Rail siding	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
2. Dock on the Great Lakes	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
3. Dock on inland water	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
4. Dock on deep sea water	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
5. Airport/landing strip capable of handling your shipments	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
6. Pipeline terminal	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No

Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination <i>Enter all that apply in order used. Use codes below.</i>	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)			(m)		(n)	(o)
	City	State	ZIP Code			City	Country		
									35
									36
									37
									38
									39
									40

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item J **USE OF OFF-SITE SHIPPING FACILITIES**

In column (b), check "Yes" or "No" for each type of shipping facility to indicate whether or not you used an **off-site** facility of that type for **outbound shipments** during 1997. For each "Yes", enter the miles to that off-site facility in column (c), and the mode of transport used to reach that facility in column (d). The modes are listed below.

Type of shipping facility (a)	Did you use this type of off-site facility for outbound shipments during 1997? (b)	Distance to the off-site facility of this type that you used most in 1997 (Report in miles – estimates are acceptable) (c)	Mode of transport used to reach that facility (Enter a code from the list below) (d)
1. Rail siding	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
2. Dock on the Great Lakes	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
3. Dock on inland water	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
4. Dock on deep sea water	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
5. Airport/landing strip capable of handling your shipments	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
6. Pipeline terminal	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		

1 – Trailer on Flat Car (TOFC)
2 – Private Truck

3 – For-Hire Truck
4 – Rail

5 – Water
6 – Pipeline

7 – Air
8 – Other

PLEASE CONTINUE ON PAGE 8.

Item K USE AND AVAILABILITY OF TRANSPORTATION EQUIPMENT

During 1997, did this location use any of the following types of equipment for outbound shipments? Please check "Yes" or "No." For rail cars reported in number 1 below, enter the approximate percentage of your total outbound rail shipments that used that type of rail car. These percentages should add to 100%. If you had no rail shipments, leave the percentages blank.

Equipment (a)	Was this type of equipment used for outbound shipments during 1993? (b)	Percentage of total rail shipments (c)
1. Rail cars that:	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
a. Your company owned/leased		
b. A common carrier owned/leased	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
c. Another party owned/leased (e.g. receiver)	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
2. Trucks with 6 or more tires or truck-tractors that:	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
a. Your company owned		
b. Your company leased, with driver	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
c. Your company leased, without driver	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
3. Truck trailers that your company owned or leased	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
4. Aircraft that your company owned or leased	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
5. Barges that your company owned or leased	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
6. Other equipment that your company owned or leased – <i>Specify</i> ↴	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	

Item L TRANSPORTATION DECISIONS

During 1997, who generally decided on the mode of transportation for your outbound shipments? *Check the appropriate box.*

1 ☐ Your company2 ☐ Receiver of shipment3 ☐ Other

Remarks

Item M CERTIFICATIONName of person to contact regarding this report – *Please print*Telephone number – *Include area code*

Date

Signature

Title

Instructions for Completing the Commodity Flow Survey

TIPS FOR COMPLETING THE CFS QUESTIONNAIRE

Please read all instructions.

You may use estimates if book figures are not readily available.

If you have questions about completing the survey, a Census Bureau representative will be glad to assist you. You can call us at 1-800-772-7851.

Some instructions are included on the questionnaire itself. However, due to space limitations, most of the instructions and definitions are included in separate reference materials. These include this instruction guide, and a listing of commodity codes to be used for classifying individual shipments in this survey.

PART I – GENERAL INFORMATION

Frequently Asked Questions About the Commodity Flow Survey (CFS)

Why are you conducting the CFS?

The CFS produces valuable measures of the demands on the nation's transportation system.

The results of the CFS are used by transportation policy makers to analyze future transportation needs.

Who reports in the CFS?

The CFS covers a sample of establishments in the mining, manufacturing, wholesale, and selected retail industries.

Why is my participation important?

Your establishment was selected as part of a sample designed to represent a wide range of industries and geographic regions.

Your report helps ensure quality results.

Is this survey mandatory?

Yes. The CFS is mandatory under the authority of Title 13, United States Code (USC).

Will my data be kept confidential?

Yes. The same law that requires your participation, Title 13, USC, also guarantees your data will be kept strictly confidential.

The reports you provide the Census Bureau cannot be used for purposes of taxation, regulation, or investigation.

Your report is used only to develop summary data that do not reveal the activities of individual firms or establishments.

How often must I report?

You will be sent four questionnaires in all: one during each quarter of 1997.

The CFS will not be conducted again until 2002.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE

Items A – C

Please enter the information requested on your establishment's name, operational status, and physical location.

Item D

Enter in the space provided your total number of outbound shipments **for the one week reporting period** on the front of the questionnaire.

Please include in this count any materials picked up by the customer ("customer pick-up").

What we mean by a "shipment":

For the purposes of this survey, a shipment is a single movement of goods, commodities, products, etc. from your location to a customer or to another location of your company.

"Commodities" refer to items that your location produces, sells, or distributes, *not* to items that are considered by-products of your location's operation.

What we don't mean by a "shipment":

Do *not* include as shipments items such as inter-office memos, payroll checks, business correspondence, etc.

Do *not* include as shipments items such as refuse, scrap paper, waste, and recyclable materials **unless** your location is in the business of selling or providing these materials to others.

A special note about "shipments":

A full, or partial, truckload should be counted as a single shipment only if all the commodities on the truck are destined for one location.

If a truck makes multiple deliveries on a route, **please count each stop as one shipment.**

Item E: Sampling Instructions

If you reported 40 or fewer shipments in Item D, complete Item F (Shipment Characteristics) for all of your shipments covered by the one-week reporting period.

If you reported more than 40 shipments in Item D, follow the instructions in Item E in order to select a sample of shipments on which to report in Item F.

By asking you to select a sample of your shipments for the one-week reporting period, we avoid asking you for information on all your shipments, while still obtaining statistically accurate information.

Reminder: The files you are sampling from should reflect the full range of your location's shipping activities in terms of modes of transportation used, commodities shipped, and destinations.

We're here to answer your questions! If you have questions about the sampling process (or any part of the questionnaire) please call us at 1-800-772-7851.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics

- **Shipment ID Number (column b)** – Enter the invoice number, shipment number, or some other unique identification number that your establishment could use to find this particular shipping document if questions arise regarding your report.
- **Shipment Date (column c)** – Enter the month and day of the shipment. If shipment date is not available, use the invoice/shipping document date. Use numbers only.
- **Shipment Value (column d)** – Enter the dollar value, in whole dollars, of the entire shipment. The value should not include freight charges or excise taxes (i.e., report the net selling value, f.o.b. plant). If the value is not readily available from your records, please estimate.
- **Shipment Weight (column e)** – Enter the weight of the total shipment in whole pounds. If weight is not readily available from your records, please estimate.
- **Commodity Code (column f)** – Please use the list of Standard Classification of Transported Goods (SCTG) Codes in the enclosed SCTG Manual to select the proper code. For shipments with more than one commodity, enter only the code for the commodity with the greatest weight.
- **Commodity Description (column g)** – Enter a brief description of the commodity shipped. For shipments with more than one commodity, describe only the commodity with the greatest weight. Do not use trade names, catalog numbers, or other codes not familiar to persons outside your business.

Item F SHIPMENT CHARACTERISTICS							
Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)
		Month	Day				
0	123-5	4	26	4,235	140	3 6 1 2 0	Electrical transformers
00	123-6	4	26	125,300	626,500	1 7 1 0 0	Gasoline
1						| | | |	
2						| | | |	
3						| | | |	
4						| | | |	

Mode of transport codes for columns (k) and (n) ▶

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

- **For Hazardous Materials (column h)** – If shipment is a hazardous material, enter the 4-digit United Nations or North American number.
- **Containerized (column i)** – Indicate whether or not the shipment was containerized by entering "Y" or "N" (yes or no). Containerized means that the shipment **left your establishment** in an intermodal container or stackable tank without permanently attached wheels. These containers typically vary from 20 to 53 feet in length, and are carried on truck chassis, trains, and ships.
- **U.S. Destination: City, State, and ZIP Code (column j)** – For domestic shipments, enter the city, state, and 5-digit ZIP Code of the buyer/receiver as it appears on the shipping document. Use the **"ship to"** address. Use the two letter state abbreviation shown in Part IV.

For **export shipments**, report the U.S. **port of exit** as the destination city. The port of exit is the port or airport from which the shipment left the country. In case of land shipments into Mexico or Canada, it is the border crossing.
- **Mode(s) of Transport (column k)** – Enter the code(s) for **all** modes of transport used for the shipment to its U.S. destination (i.e., the destination reported in column j). Codes are located on the bottom of pages 2, 3, 4, and 5 of the questionnaire. Enter in the sequence used, all that apply. See Part III for definitions of each mode.

For Customer Pick-up: Report the mode(s) of transportation used, if known. Otherwise, report mode as "0" (unknown).

For Export Shipments: List only the mode(s) of transport used to reach the port, airport, or border crossing of exit.

If a hazardous material, enter the "UN" or "NA" number (h)	Containerized? (Y/N) (i)	U.S. destination (j)			Mode(s) of transport to U.S. destination Enter all that apply using codes shown below. (k)
		City	State	ZIP Code	
	N	Los Angeles	CA	90040	2, 4, 3
	N	New York	NY	10454	5

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

- **Export Shipment (column l)** – Indicate whether or not the shipment is intended for export outside of the United States, by entering a "Y" or "N" (yes or no). For purposes of this survey, shipments to Puerto Rico and U.S. territories and possessions are considered exports.
- **Foreign Destination: City and Country (column m)** – If the shipment is an export, enter the foreign city and country of destination. **For U.S. Destination (column j),** enter the U.S. port, airport, or border crossing of exit. **In column (k),** enter the mode of transport used to the U.S. destination.
- **Export Mode (column n)** – If the shipment is an export, enter the code for the mode of transport by which the shipment left the country. Codes are located at the bottom of pages 2, 3, 4, and 5 of the questionnaire.

Export? (Y/N) (l)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit. (m)		Export mode (n)	Line No. (o)
	City	Country		
N				0
Y	London	England	6	00
				1
				2
				3
				4
				5

Items G – I

Please enter the information requested.

Item J: Certification

Please enter the name and telephone number of the person to contact in the event that we have a question about your report.

PART III – MODE DEFINITIONS

Parcel delivery/Courier/U.S. Postal Service – Delivery services that carry letters, parcels, packages, and other small shipments that typically weigh less than 100 pounds. Includes bus parcel delivery service.

Private truck – Trucks operated by a temporary or permanent employee of this establishment or the buyer/receiver of the shipment.

For-hire truck – Trucks that carry freight for a fee collected from the shipper, recipient of the shipment, or an arranger of the transportation.

Railroad – Any common carrier or private railroad.

Shallow draft vessel – Barges, ships, or ferries operating primarily on rivers and canals; in harbors, the Great Lakes, the Saint Lawrence Seaway; the Intracoastal Waterway, the Inside Passage to Alaska, major bays and inlets; or in the ocean close to the shoreline.

Deep draft vessel – Barges, ships, or ferries operating primarily in the open ocean. Shipping on the Great Lakes and the Saint Lawrence Seaway is classified with shallow draft vessels.

Pipeline – Movements of oil, petroleum, gas, slurry, etc. through pipelines that extend to other establishments or locations beyond the shipper's establishment. Aqueducts for the movement of water are not included.

Air – Commercial or private aircraft, and all air service for shipments that typically weigh more than 100 pounds. Includes air freight and air express.

Other mode – Any mode not listed above.

Unknown – The shipment was not carried by a parcel delivery/courier/U.S. Postal service, and you cannot determine what mode of transportation is used.

Note: Commodities that are "shipped" under their own power, such as boats, barges, ferries, ships, aircraft, trucks, and trains **should be classified with the appropriate mode above.** Commodities shipped under their own power for which an appropriate mode is not listed (e.g., buses, recreational vehicles) should be listed as **"other" mode.**

PART IV -- STATE ABBREVIATION LIST

State	Abbrev.	State	Abbrev.
Alabama	AL	Montana	MT
Alaska	AK	Nebraska	NE
Arizona	AZ	Nevada	NV
Arkansas	AR	New Hampshire	NH
California	CA	New Jersey	NJ
Colorado	CO	New Mexico	NM
Connecticut	CT	New York	NY
Delaware	DE	North Carolina	NC
Dist. of Col.	DC	North Dakota	ND
Florida	FL	Ohio	OH
Georgia	GA	Oklahoma	OK
Hawaii	HI	Oregon	OR
Idaho	ID	Pennsylvania	PA
Illinois	IL	Rhode Island	RI
Indiana	IN	South Carolina	SC
Iowa	IA	South Dakota	SD
Kansas	KS	Tennessee	TN
Kentucky	KY	Texas	TX
Louisiana	LA	Utah	UT
Maine	ME	Vermont	VT
Maryland	MD	Virginia	VA
Massachusetts	MA	Washington	WA
Michigan	MI	West Virginia	WV
Minnesota	MN	Wisconsin	WI
Mississippi	MS	Wyoming	WY
Missouri	MO		

NOTICE - We estimate that it will take an average of 2 hours to complete this form. This includes time to read instructions, assemble and review information, and record answers on the form. If you have any comments regarding this estimate or any other aspect of this survey, send them to the Associate Director for Administration, Attn: Paperwork Reduction Project 0607-0189, Room 3104, Federal Building 3, Bureau of the Census, Washington, DC 20233-0001. Respondents are not required to respond to any information collection unless it displays a valid approval number in the top right corner on the front of the questionnaire.

